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WATER POLLUTION POTENTIAL OF MANUFACTURED PRODUCTS. CATALOG SECTION III. CHEMICAL INGREDIENT LISTING: BIBLIOGRAPHY, APPENDIX A, TOXICITY DATA, APPENDIX B, OXYGEN DEMAND DATA

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Environmental Protection Agency
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WATER POLLUTION POTENTIAL OF MANUFACTURED PRODUCTS--CATALOG SECTION III, Chemical Ingredient Listing

Berkowitz, J. B., Schimke, G. R., and Valerio, V. R.

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Data on the pollution potential of manufactured products are compiled in a catalog of three sections. These data are required for pollution control and for enforcement of environmental quality standards. Section I contains summary data consisting of product name, production rate, product lifetime, toxicity, oxygen demand, solids, color, odor, eutrophication, oils and tars, and water hardness. Section II is a product listing. It summarizes, for each product, the chemical compositions of the components of the product. Section III consists of a list of chemical ingredients of products, a bibliography, toxicity data, and oxygen demand data. (Knapp-USGS)

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WATER POLLUTION POTENTIAL

OF

MANUFACTURED PRODUCTS

CATALOG SECTION III - CHEMICAL INGREDIENT LISTING

BIBLIOGRAPHY
APPENDIX A - TOXICITY DATA
APPENDIX B - OXYGEN DEMAND DATA

by

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COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Abrasives	2841 175 2842 3 2842 498 3941		Examples: Boron Carbide Boron Nitride Corandum Diamond Garnet Tripoli Silicon Carbide	CCD
Acacia (See: Gum Arabic)				
Acetal copolymers	1925 2519 2591 3079 3079 65 3652 3941	Condensation polymers		
Acetic acid CH_3 COOH	2111 2279 2842 332 2842 398 2842 442 2844 351 2844 519 2891 1 2899 3 3861 811 3941	Aliphatic acid	Clear, colorless, acid liquid Very pungent odor Miscible with water Causes severe burns Oxygen demand	CCD CCD CCD CCD Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Acetone CH_3COCH_3	2834 6 2844 531 2844 533 2851 631 2851 863 2851 898 2851 9 2851 911 2891 1 2891 171 2891 179 2899 337 2899 37 3069 864 3842 161 3952 3955 03	Ketone	Colorless, volatile liquid Characteristic odor Miscible with water In humans, 500 ppm is toxic inhalation dose Oxygen demand	CCD CCD CCD Toxic Sub Heukelekian, Lamb
Acetone peroxides	2011-2099	Ketone		
Acetophenol	2842 341			
N-acetylethanolamine $CH_3CONHC_2H_4OH$	2842 321	Aliphatic amine	Brown, viscous liquid Soluble in water Boiling range 150-152°C (5 mm), decomposes (10 mm)	CCD CCD CCD
Acetyl tributyl citrate	3941	Aliphatic acid	Colorless liquid Odorless Insoluble in water	CCD CCD CCD
Acrylate styrene acrylonitrile (See: Acrylic resins)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Acrylic resins (acrylics)	2299 2514 2519 2522 2621 2851 211 2851 411 2851 631 2893 3079	Addition polymer	Colorless monomer liquid esters Resins, ranging from soft, sticky, semi-fluid materials to hard solids, are resistent to the action of water. Examples: "Lucite" and "Plexiglas"; also, acrylic insol rubbers.	CCD CCD CCD
Acrylonitrile H_2 C:CHCN	2647 3079 3079 65	Aliphatic acid	Colorless, mobile liquid Partially miscible with water Poisonous if inhaled; LD_{50} in rats; 93 mg/kg Oxygen demand	CCD CCD CCD; Toxic Sub Heikelikian
Acrylonitrile - butadiene - styrene (resins) (ABS resins)	1925 2519 3079 65 3496 011 3941	Addition polymer	Nontoxic Water absorption (24-hrs.) 0.2-0.3%	CCD CCD
Alcohol (See: Ethyl Alcohol)				
Aldrin (See: 1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-endo-exo-1,4:5,8-dimethano-naphthalene)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Algaroba			Yellow-green color Odorless and tasteless, but acquires a leguminous taste when boiled in water	•
Aliphatic amines	2821			
Aliphatic hydrocarbons, liquid and solid	2851 6 2851 631-637 2851 638 2851 8 2851 811-857 2851 911 creams & lotions 2851 9 2893 2893 03 2899 337			
Alizarin	3941	Synthetic coloring matter	Orange-red crystals; brownish-yellowish, powder Sparingly soluble in water	CCD CCD
Alkali Blue	2893 2893 03	Synthetic coloring matter		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Alkali cellulose	2647	Cellulose		CCD
Alkalis	2842 341 2842 498 2851 863 2891 1 2899 337 3269 3861 811	Inorganic base	In water solution, bitter, slippery, caustic to the skin	CCD
Alkanolamine stearate	2844 523	Aliphatic amine		
Alkyd resin	2511 2641 2851 2851 121-127 2851 137 2851 135 2851 200 2851 211 2851 219 2851 352 2851 354 2851 365 2851 367 2851 6 2851 631 2851 638 2851 8 2851 811-857 2851 931 2893 2893 08	Condensation polymer	Fully reacted or "cured" alkyd resins have little or no toxicity	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Alkyl amine acetate	2842 332	Aliphatic amine		
Alkyl aryl ammonium chlorides	2842 332	Aniline		
Alkyl aryl sulfate or alkyl aryl sodium sulfate	2834 5			
Alkyl aryl sodium sulfonate (See: Sodium alkyl aryl sulfonate)		Sulfonated hydrocarbon		
Alkyl aryl sulfonates (See: Sodium alkyl-aryl sulfonates)				
Alkyl aryl sulfonates (See: Alkyl benzene sulfonate)		Sulfonated hydrocarbon		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Alkyl benzene sulfonates 7 = (ABS) (See, also: Detergents synthetic unclassified)	2841 3	Sulfonated hydrocarbon	No evidence of toxicity Branched-chain sulfonates are called hard because of their resistance to biodegradation	Gleason CCD
Alkyl diethanolamine	2842 411	Aliphatic amine		
N-alkyl dimethyl benzyl ammonium chloride N-alkyl dimethyl ethyl benzyl ammonium chloride Alkyl dimethyl benzyl ammonium chloride Alkyl dimethyl ethyl-benzyl ammonium chloride (See: Quaternary ammonium salts)	2834 8 2842 332 2842 381 2842 398	Aliphatic amine	LD_{50} in rats: 445 mg/kg	Toxic Sub
Alkyl esters (See also: Amyl acetate, ethyl lactate, etc.)	2844 531	Aliphatic acid		
Alkylketene dimer emulsion	2621	Addition polymer		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Alkyl napthalene sulfonate	2647	Sulfonated hydrocarbon		
Alkyl phenol poly-ethylene glycol ether	2842 3	Phenol		
Alkyl phenoxy poly-ethanol(s)	Toilet bowl cleaners, deod. & dis. 2834 617	Phenol		
Alkylphenyl poly-ethoxyethanol	2841 3 2842 394	Phenol		
Alkyl sodium sulfate (See: Detergent, synthetic anionic)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Alkyl sodium sulfonates (See: Detergents, synthetic anionic.)		Sulfonated hydrocarbon		
Alkylstyrene polymers	2992	Addition polymer		
Alkyl sulfonates (See, also: Alkyl sodium sulfonates.)	2844 51	Sulfonated hydrocarbon		
Allantoin (Glyoxyldi-ureide) $C_4H_6N_4O_3$	Lotions, creams, freshen-ers, talcs 2834 6 2834 617 2844 511	Aliphatic acid	Colorless crystals White to colorless powder or crystals Soluble in hot water Odorless, tasteless powder or crystals One gram is soluble in 190 cc water pH of saturated water solution: 5.5	Hackh's CCD Hackh's CCD CCD, Merck8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Allyl isothiocyanate C_3H_5NCS	2834 9	Sulfur compound	Colorless to light yellow, oil liquid Pungent and irritating mustard odor Causes blistering of skin; harmful to lungs Slightly soluble in water	CCD CCD CCD CCD
Allyl resins	3079	Addition polymer	Highly resistant to moisture	CCD
Alum (See: Aluminum potassium sulfate)		Metal salt		
Alumina hydrate (See: Alumina trihydrate)				
Alumina trihydrate (See, also: Aluminum hydrate) $Al_2O_3 \cdot 3H_2O$	Toothpaste, deod. & antiper. 2893	Inorganic base	White, crystalline powder, balls, or granules Insoluble in water	CCD CCD
Aluminum Al	2591 2841 115 2842 331 2851 8 3352 3411 3432 3461 1 3461 4 3496 011 3651 3714 3961	Metal	Tin-white, malleable ductile metal with somewhat bluish tint In moist air gradually oxidizes superficially Reduces the cations of many heavy metals to the metallic state Solutions of the metal in dilute HCl or neutral or slightly acid solutions of most aluminum salts yield with Na_2S, a while precipitate soluble in excess of Na_2S. Contact dermatitis, bronchial asthma may occur (usually in industrial use)	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aluminum alloys	3496 011	Metal		
Aluminum ammonium sulfate $Al_2(SO_4)_3(NH_4)_2SO_4 \cdot 24H_2O$	2842 341 3952	Metal salt	Colorless crystals Odorless Strong astringent taste Soluble in water	CCD CCD CCD CCD
Aluminum chlorhydrol	2842 381	Metal oxide		
Aluminum chlorhydroxide (See: Aluminum hydroxychloride)				
Aluminum chlorhydroxy-allantoinate	2844 156	Metal oxide		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aluminum chloride $AlCl_3 \cdot 6H_2O$	2844 524 3861 811	Metal salt	Colorless crystals Colorless crystals, or white or slightly yellow deliquescent crystal powder Odorless or slight HCl odor Soluble in water One gram dissolves in 0.9 ml water LD_{50} orally in rats 3.7 g/kg Toxicity	Hackh's Merck 8; Hackh's Merck 8; Hackh's Merck 8; Hackh's Merck 8 III-B
Aluminum hydrate (See, also: Aluminum trihydrate) $Al(OH)_3$	Baby preps. 2834 613 2844 4 3952 2992	Metal oxide	White powder; white, crystalline powder, balls, or granules Odorless, tasteless, amorphous powder Insoluble in water	Hackh's; CCD Hackh's Hackh's; CCD
Aluminum hydroxychloride (See also: Aluminum chlorhydroxide) $Al_2(OH)_5 \cdot Cl \cdot 2H_2O$ or $[Al(OH)_2Cl]_x$	2844 524 2844 525	Metal salt	Glassy solid Dissolves in water, forming slightly turbid colloidal solutions pH of 15% aq. solution about 4.3 Limited data suggest low toxicity for humans	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aluminum soap (See: Soap, metallic)				
Aluminum oxide (Alumina) Al_2O_3	2992 3231 3241 3269 3274 3292 3431 3641 3999 117	Metal oxide	White powder, balls or lumps of various mesh Insoluble in water	CCD CCD
Aluminum phenolsulfonate $Al(C_6H_4OHSO_3)_3$	2834 8 2844 159 2844 524	Phenol	White to reddish-white powder Slight phenol odor Strongly astringent taste Soluble in water	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aluminum potassium sulfate $AlK(SO_4)_2 \cdot 12H_2O$	Lotions, creams, etc. foot preps 2086 2621 2653 2834 621 2834 5 2844 156 2844 159 2899 3 3861 811	Metal salt	White crystals Colorless, transparent crystals or crystalline fragments or white crystalline powder Odorless Sweetish, astringent taste Soluble in water; one gram dissolves in 7.2 ml water, in 0.3 ml boiling water Aqueous solution is acid; pH 4.2 Stable at ordinary temp.; when kept for a long time at 60-65° loses 9 H_2O which is reabsorbed on exposure to air; becomes anhydrous at about 200°; at higher temp. loses SO_3 and becomes basic and incompletely soluble in water	CCD Merck 8 CCD;Merck 8 Merck 8 CCD;Merck 8 Merck 8 Merck 8
Aluminum silicate(s) $Al_2O_3 \cdot 3SiO_2$	2647 2834 9 2844 523 3269 3431 3952	Metal salt	White lumps or powder; white masses Insoluble in water	Merck 8; Hackh's Merck 8; Hackh's

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aluminum sodium sulfate	2051	Metal salt	Colorless crystals Saline, astringent taste Soluble in water	CCD CCD CCD
Aluminum stearate $Al(C_{18}H_{35}O_2)_3$	2851 8 2992 3999 117 3999 119 2844 543	Metal salt	White powder Insoluble in water Forms gels with aliphatic and aromatic hydrocarbons	CCD CCD CCD
Aluminum sulfate $Al_2(SO_4)_3$	2841 115 2844 525 2891 1 2891 19 3941 3999 119	Metal salt	White, lustrous crystals, pieces, granules, or powder Soluble in one part water; soluble in water At 250° loses its water; decomposes at red heat Decomposes at 770°C The aqueous solution is acid LD_{50} in mice: 770 mg/kg	Merck 8 Merck 8; CCD Merck 8 CCD Merck 8 Toxic Sub
Aluminum sulfocarbolate (See: Aluminum phenolsulfonate)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Amaranth $C_{20}H_NN_2O_{10}Na_3S_3$	2086 2844 4	Synthetic coloring matter	Dark, red-brown powder One gram dissolves in about 15 ml water, soluble in water The aqueous solution is vivid red (1 cm layer) Discharge white by hydrosulfite on wool and silk HCl does not change the color intensity of the solution, Na OH increases it. The aqueous solution is stable toward light Toxicity	Merck 8;CCD Merck 8;CCD Merck 8 III-B
Ambergris	2844 223 2844 233	Sterol	Gray to black, waxy mass Characteristic odor Insoluble in water	Merck 8 Merck 8 Merck 8
Amerchol L101	2844 514	Sterol	Trademark for a series of surface-active lanolin derivatives; most are soft solids	CCD
Amide	2879	Aliphatic acid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Amidol (3,4-Diamino-phenol hydrochloride)	3861 811		Colorless crystals Slightly soluble in water	Hackh's Hackh's
Amine soaps	Foot preps. 2842 311 2842 411 2842 415 2842 423 2842 465 2842 498 2992	Aliphatic amine		
p-Aminobenzoic acid $NH_2C_6H_4CO_2H$	2844 515	Aromatic acid aniline	Light buff crystals; white when pure; discolors on exposure to light & air Odorless Sparingly soluble in cold water; soluble in hot water One gram dissolves in 200 ml water at 25°, freely soluble in boiling water pH of 0.5% solution: 3.5 Incompatible with (unstable to) ferric salts and oxidizing agents LD_{50} orally in rats: 6.0 g/kg	CCD CCD CCD Merck 8 Merck 8 Merck 8;CCD Merck 8
4-Amino-2-chloro-toluene		Aniline		
4-Amino-2-chloro-toluene-5-sulfonic acid	2893	Aniline		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
p-Aminodiphenylamine $NH_2C_6H_4NHC_6H_5$	2844 351	Aniline	Purple powder Insoluble in water	CCD CCD
Amino-formaldehyde polymer	2851 6	Condensation polymer		
o-Aminophenol $C_6H_4NH_2OH$	2844 351	Phenol aniline	White crystals; turn brown with age Soluble in cold water	CCD CCD
p-Aminophenol $C_6H_4NH_2OH$	2844 351	Phenol aniline	White or reddish-yellow crystals; turn violet on exposure to light Soluble in water	CCD CCD
p-Aminophenol hydrochloride	3861 811	Phenol aniline		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ammonia NH_3	2111 2121 2834 635 2841 5 2842 311 2842 341 2842 351 2842 423 2842 498 2844 3 2844 336 2844 351 2851 898 2851 9 2851 911 2891 179 3069 8 3941 3952	Ammonia	Colorless gas (liquid) Characteristic pungent odor Very soluble in water Inhalation of conc'd. vapor causes edema of respiratory tract, spasm of the glottis, asphyxia Inhalation, approximate lethal concentration: 2000 ppm Toxicity	Hackh's; CCD;Merck8 Hackh's;CCD; Merck 8 Hackh's; CCD Toxic Sub III-B
Ammoniacal-copper arsenate	2491	Metal salt		
Ammonium alum (See: Aluminum ammonium sulfate)				
Ammonium bicarbonate NH_4HCO_3	2072	Ammonia	White crystals Soluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ammonium carbonate $(NH_4)HCO_3 \cdot (NH_4)CO_2NH_2$	Hair preps. 2072	Ammonia	Colorless, hard, translucent, crystalline masses or white cubes or powder	Merck 8;CCD
			Strong odor of ammonia	Merck 8;CCD
			Sharp ammoniacal taste; alkaline reac.	Merck 8;CCD
			Slowly soluble in 4 parts water; decomposed by hot water	Merck 8
			Soluble in water; decomposes in hot water, yielding ammonia and carbon dioxide	CCD
			Incompatible with acids and acid salts; salts of iron, zinc, alkaloids, alum, calomel, tartar emetic	Merck 8
			L.D. i.v. in mice: about 96 mg/kg	Toxic Sub
			Gastric irritation may occur when ingested	CCD
Ammonium chloride(s) NH_4Cl	Mouth wash, air-cleaners, deods. 2051 2299 2842 3 2842 332 2842 341 3111 3692 3861 811 3941 3999 411	Ammonia	Colorless, odorless crystals or crystalline masses; or white granular powder	Merck 8
			White crystals	CCD
			Cooling, saline taste	Merck 8;CCD
			Solubility in water at -13° = 20% w/w; at +10° = 25%; at 33° = 30%; at 83° = 40%	Merck 8
			Soluble in water	CCD
			HCl and NaCl decrease solubility in water; pH of aq. solutions at 25% = 1% 5.5; 3% 5.1; 10% 5.0	Merck 8
			LD_{50} i.m. in rats: 30 mg/kg	Merck 8
			LD_{50} i.v. in guinea pigs: 240 mg/kg	Toxic Sub
			In humans, excessive doses may cause nausea, vomiting and acidosis	Merck 8
			Toxicity	III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ammonium citrate $(NH_4)_2HC_6H_5O_7$	2841 115	Aliphatic acid	White granules Soluble in water	CCD CCD
Ammonium cobaltous phosphate NH_4CoPO_4	3952	Metal salt	The hydrate (NH_4 $CoPO_4 \cdot H_2O$) is red to violet powder, or monoclinic rectangular lamellae The hydrate is practically insoluble in water.	Merck 8 Merck 8
Ammonium fluoride NH_4F	2841 179	Fluorine compound	White crystals Soluble in water Poisonous; LD_{50} i.p. in rats: 31 mg/kg	CCD CCD CCD;Toxic Sub
Ammonium hydroxide NH_4OH	2844 3 2842 3 2072 2841 175 2842 311 2842 332 2842 341 2842 398 2844 514 2844 522 2851 611 2851 613 2891 1 2891 171 2891 173 3069 8 3861 811 3941 2842 498 2844 398	Ammonia	Colorless liquid Strong characteristic odor; intense, pungent, suffocating odor Acrid taste Strong alkaline reaction; it dissolves copper, zinc; fumes formed when ammonia water brought near volatile acids; mixtures of ammonia and H_2SO_4 or other strong mineral acids become instantly boiling hot Liquid causes burns, vapor irritating Toxicity	CCD;Merck 8 CCD;Merck 8 Merck 8 Merck 8 CCD III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ammonium nitrate NH_4NO_3	2892	Ammonia	Colorless crystals	CCD
			Soluble in water	CCD
Ammonium oxalate (See also: oxalic acid) $NH_4OOCCOONH_4$	2841 175 2899 337	Aliphatic acid	Colorless prisms Odorless crystals or granules Caustic and corrosive to skin, mucous membrane Soluble in water; one gram dissolves in 20 ml water, 2.6 ml boiling water	Hackh's Merck 8 Hackh's; Merck 8 Hackh's; Merck 8
Ammonium peroxydisulfate (See:Ammonium persulfate)				
Ammonium peroxysulfate (Ammonium peroxydisulfate) (See: Ammonium persulfate)				
Ammonium persulfate $(NH_4)_2S_2O_8$	2011-2099 3861 811	Ammonia	White crystals; crystals or white granular powder	CCD, Merck 8
			Odorless [platelike or prismatic (monoclinic) crystals, or white granular powder]	Merck 8
			Freely soluble in water; aq. solution is acid and decomposes slowly at room temp. and rapidly at higher temp. evolving O_2 and forming NH_4HSO_4	Merck 8
			LD_{50} orally in rats: 820 mg/kg	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ammonium phosphate, dibasic $(NH_4)_2HPO_4$	tooth powder 2261 2491 2844 4 2844 471	Ammonia	White crystals or powder; colorless monoclinic crystals Odorless Soluble in water; one gram dissolves in 1.7 ml water, 0.5 ml boiling water	CCD; Hackh's Merck 8 CCD; Merck 8
Ammonium phosphate, monobasic $NH_4H_2PO_4$	2491 3999 117 3999 3 3999 411	Ammonia	Brilliant, white crystals or powder Moderately soluble in water Mildly acid in reaction	CCD CCD CCD
Ammonium sulfamate $NH_4OSO_2NH_2$	2261	Ammonia	White, crystalline solid Soluble in water LD_{50} orally in rats: 3900 mg/kg	CCD CCD Toxic Sub
Ammonium sulfate $(NH_4)_2SO_4$	2491 2841 5 3111 3999 411	Ammonia	Brownish-gray to white crystals, acc. to degree of purity Soluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ammonium thioglycolate $HSCH_2COONH_4$	Lotions 2844 3 2844 398	Organic sulfur compound		
Amyl acetate (See, also: Isoamyl acetate) (See, also: Alkyl esters) $CH_3COOC_5H_{11}$	2842 398 2842 411 2842 415 2842 423 2844 531 2844 533 2851 9 2891 1	Alcohol	n-amyl acetate: inhalation, lethal concentration in rats: about 5200 ppm Colorless liquid Sparingly soluble in water	Toxic Sub Hackh's Hackh's
Anethinex	3842 161			
Aniline C_6H_7N	2851 9 2851 911 2899 37 3111	Aniline	Oily liquid; colorless when freshly distilled, darkens on exposure to air and light Characteristic odor and burning taste One gram dissolves in 28.6 ml water, 15.7 ml boiling insol. water It dissolves alkali or alkaline earth metals with evolution of hydrogen and formation of anilides Poisonous. LD_{50} orally in dogs: 500mg/kg; 442 mg/kg Inhalation, lethal concentration in rats: about 250 ppm Oxygen demand Toxicity	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8; Toxic Sub Toxic Sub Heukelekian III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aniline dyes	2279 2842 341 2842 442 2842 444 2851 135 2851 137 2899 3 3111 3141	Synthetic coloring matters	Aniline yellow - BOD - zero Color	Heukelekian
Animal oil (See: bone oil)				
Anise oil	mouthwash 2834 9 2844 4	Phenol Aldehyde	Colorless thick liquid; solidifies to a crystalline mass at about 15° Characteristic odor; very sweet taste	CCD CCD
Anthraquinone dyes $(C_6H_4(CO)_2C_6H_4)$	2911 1	Synthetic coloring matter	Color index numbers range from 58000 to 72999	CCD
Antibacterials	2844 313 3952		Example: Hexachlorophene	

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Antimony Sb	2821 3432 3461	Metal	Silver-white, lustrous, hard, brittle metal; or dark gray, lustrous powder	Merck 8
			Dissolved in a slight excess of HCl with aid of HNO_3 and solution poured in a large volume of water, a white ppt forms which becomes orange-red on addition of H_2S and is soluble in ammonium sulfide	Merck 8
			LD_{50} i.p. in rats: 100 mg/kg (aq. suspension)	Merck 8
			In humans, toxic inhalation concentration: 4.7 mg/M	Toxic Sub
Antimony hydride (See: Stibine)				
Antimony trioxide Sb_2O_3	2261 2821 3641 3641 1	Metal oxide	Crystals, polymorphic	Merck 8
			Slightly soluble in water	Merck 8
			LD_{50} orally in rats: >20g/kg	Merck 8
Antimony trisulfide Sb_2S_3	3941	Metal salt	In nature, black crystals; as precipitated from solutions of salts of antimony, it is orange-red ppt.	CCD
			LD i.p. in rats: about 1000 mg/kg	Toxic Sub
			In humans. toxic inhalation concentration: 3.07 mg./M	Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Antioxidants	creams, lotions 28445 23 2992			
Antiseptics	creams, lotions 2844 341		Example: Hexachlorophene	
Aqua ammonia (See: Ammonium hydroxide)				
Areca	tobacco 2131		Fresh seeds have faint cheese-like odor powder has astringent, slightly bitter taste	CCD
Argon Ar	3641		No water pollution potential; colorless; inert gas Odorless Soluble in water (73 ml/1 at 20°)	Merck 8 Merck 8 Merck 8
Arlacel 80, 85, 60	2844 512 2844 513 2844 518 2844 519	Aliphatic acid Alcohol		
Arnica	2844 519			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aromatic hydrocarbons (See also: Specific Hydrocarbons)	2851 631-637 2851 8 2851 811-857 2851 911 2899 337 2899 37			
Arsenic As	2851 611 2851 613 3352 3432 3952	Metal	Gray, shiny, brittle, metallic-looking rhombohedra Insoluble in water Most forms of arsenic are highly toxic to humans Toxicity	Merck 8 Merck 8 Merck 8 III-B
Arsenic trioxide As_2O_3	rodenti-cide 2851 128 2851 618 3641	Metal oxide	White amorphous powder; white or transparent, glassy, amorphous lumps or crystalline powder Odorless, tasteless Scluble in water; slightly soluble in water; sparingly and extremely slowly soluble in cold water, soluble in 15 parts boiling water Poisonous;LD_{50} in rats:138 mg/kg In humans, LD about 100 mg; inhalation toxic concentration >0.5 mg/M	CCD;Merck 8 CCD Hackh's; CCD; Merck 8 CCD;Merck 8 Toxic Sub
Aryl compounds	2821			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Asbestine	2841 179		A short-fibered asbestos paint extender	Hackh's
Asbestos	2821 2851 8 2891 178 2891 179 2952 2		Fine, slender, flaxy fibers Prolonged exposure to the dust can result in pulmonary fibrosis (asbestosis), emphysema, lung neoplasms in humans	Merck 8 Merck 8
Ascorbic acid	2051	Aliphatic acid	White crystals (usually plates, sometimes needles) Soluble in water	CCD CCD
Ascorbyl palmitate $C_{22}H_{38}O_7$	2844 523	Aliphatic acid	White or yellowish-white powder Citrus-like odor Soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Aspergillic acid		Pyridine	Insoluble in cold water	CCD
Aspergillus flavus-oryzal enzyme	2011-2099			
Aspergillus enzyme (See: Aspergillic acid)				
Asphalt	2621 2641 2851 137 2851 139 2851 8 2851 811-857 2891 178 2952 2 2992	Aliphatic hydrocarbon	Black, shining brittle masses Faint pitch-like odor Insoluble in water	CCD
1,1' - Azobisformamide $H_2NCONNCOCH_2$	2011-2099 2821 3941	Ammonia	Yellow powder Insoluble in common solvents; hydrolyzes in the presence of water at high temperatures to nitrogen, carbon dioxide, and ammonia Non-toxic	CCD CCD CCD
Azodicarbonamide (See: 1,1'-Azobisformamide)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Azo dyes	2911 1			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Bacitracin	2834 291	Aliphatic acid	White to pale buff, hygroscopic powder Odorless or with slight odor Bitter taste Freely soluble in water. Solutions are neutral or slightly acid to litmus LD_{50} i.p. in mice: 400 mg/kg	CCD CCD CCD CCD Toxic Sub
Bacteria, saprophytic	2842 331			
Balsam peru (Balsam, tolu) (Balsam)	2111 2295 2834 5 2834 6 2834 621 2844 223 2844 598 3842 161 3941	Aromatic acid	Dark, molasses-like liquid Pleasant aromatic odor Warm bitter taste Nearly insoluble in water	CCD CCD CCD CCD
Barite (See:Barium sulfate)				
Barium Ba	2992 3652	Metal	Yellowish-white, slightly lustrous lumps Decomposition by water or alcohol with evolution of hydrogen, solutions of sol barium salts give a white ppt with H_2SO_4 or sol sulfates All water or acid soluble barium compounds are poisonous	Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Barium lithol red	2893	Synthetic coloring matter		
Barium manganate (VI) $BaMnO_4$	3952	Metal salt	Dark green powder Very slightly soluble in cold water	Merck 8 Merck 8
Barium nitrate $Ba(NO_3)_2$	2899 3 3952	Metal salt	Lustrous, white crystals Soluble in water Poisonous; may be fatal if swallowed	CCD CCD CCD
Barium oxide BaO	2851 8 2851 811-857 3231 3641	Metal oxide	White to yellowish-white powder or lumps Soluble in water On contact with water it forms $Ba(OH)_2$ with evolution of much heat Poisonous. Symptoms of acute human toxicity include excessive salivation, vomiting, colic, violent diarrhea, convulsive tremors, increased blood pressure, hemorrhages in G.I.tract and kidneys, muscular paralysis	Merck 8 Merck 8 Merck 8
Barium peroxide BaO_2	2851 8 2851 811-857	Metal oxide	White or grayish-white, heavy powder Insoluble in water, but slowly decomposes by contact with it Decomposed by dilute acid or CO_2 in presence of water forming H_2O_2. Combines with water to form $BaO_2 \cdot 8H_2O$ Poisonous	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Barium petroleum sulfonates	2992	Metal salt Sulfonated hydrocarbon		
Barium phenolate (s)	2992	Phenol Metal salt		
Barium stearate	2821		White Insoluble in water	CCD CCD
Barium sulfate $BaSO_4$	2844 543 3269 3952	Metal salt	Fine, heavy powder or polymorphous crystals Odorless Practically insoluble in water (1 gram dissolves in 400,000 parts)	Merck 8 Merck 8 Merck 8
Barrier agents	2844 512		Examples: Zinc stearate, cellulose derivatives, silicones	
Batu gum	2891 1			
Bay rum	2844 156 2844 519	Alcohol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Beeswax	2844 522 2844 516 2834 6 2842 423 2842 465 2842 498 2844 3 2844 341 2844 511 2844 512 2844 513 2844 514 2844 521 2844 523 2844 539 2844 598 3842 161 3955 03 3999 411	Aliphatic acid	Yellowish to grayish-brown solid Yellowish to brownish-yellow, soft to brittle Honey-like odor Slight balsamic taste; faint characteristic taste (Practically) insoluble in water	CCD Merck 8 Merck 8 CCD Merck 8 CCD Merck 8 CCD
Belladonna	3842 161	Alkaloid	Poisonous	CCD
Benedict solution	3941	Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Bentonite	foot preps cleaners creams, 2842 311 2842 351 2842 415 2842 442 2842 498 2844 545 2891 1 3949 2 3999 117 2891 179 2891 19	Metal salt	Light yellow or green, cream, pink, gray to black color In massive condition, color varies from yellowish-white to almost black; powder is cream colored to pale brown Earthy taste Insoluble in water Forms highly viscous suspensions or gels with not less than 10 times its weight of water	CCD Merck 8 CCD CCD Merck 8
Benzalkonium chloride $[C_6H_5CH_2N(Me)_2R]Cl$	deods & antipersp creams, lotions 2834 8 2844 156 2844 3 2844 321 2844 471	Aliphatic amine	White or yellowish-white, amorphous powder or gelatinous pieces Aromatic odor Very bitter taste Very soluble in water LD_{50} orally in frogs: 30 mg/kg	CCD; Merck 8 CCD; Merck 8 CCD; Merck 8 CCD; Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Benzene C_6H_6	2095 2842 398 2842 411 2844 533 2851 135 2851 3 2851 365 2851 367 2851 863 2851 898 2851 9 2891 179 3069 8	Aromatic hydrocarbon	Clear, colorless liquid Characteristic odor Soluble in 1430 parts water LD_{50} orally in rats: 5.7 g/kg; 4080 mg/kg In humans, inhalation toxic concentration: about 60 ppm Toxicity Oxygen demand	Merck 8 Merck 8 Merck 8 Merck 8; Toxic Sub Toxic Sub III-B Heukelekian
Benzene hexachloride isomers $C_6H_6Cl_6$	pesticides 2834 9 2842 423	Halogenated hydrocarbon	delta isomer - LD_{50} orally in rats: 1000 mg/kg gamma isomer - LD_{50} orally in rats: 125 mg/kg alpha isomer - LD_{50} orally in rats: 500 mg/kg Toxicity	Toxic Sub Toxic Sub Toxic Sub III-B
Benzene hexachloride γ isomer (See:Benzene hexachloride isomers) (See also:Lindane)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Benzethonium chloride $C_{27}H_{42}ClNO_2 \cdot H_2O$	deods & antipersp foot preps 2834 9 2842 381	Phenol Aliphatic amine	Colorless crystals Very bitter taste Soluble in water very soluble in water giving a foamy, soapy solution pH of a 1% aq. solution is between 4.8 and 5.5 Incompatible with soap, anionic detergents Aq. solution yields flocculent white ppt with soap solutions LD_{50} orally in rats: 420 mg/kg In humans, ingestion may cause vomiting, collapse, convulsions, coma Toxicity	CCD CCD CCD Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 III-B
Benzocaine (See also: Ethyl aminobenzoate) $C_6H_4NH_2CO_2C_2H_5$	Medicinals, First aid 2834 291 2834 5 2834 611 2834 613 2834 621 2844 156 2844 498 2844 523 3842 161	Aniline Aromatic acid	White, crystalline powder, colorless crystals Odorless, tasteless Insoluble in water Very slightly soluble in water Toxicity	CCD;Hackh's CCD Hackh's CCD III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Benzoic acid $C_7H_6O_2$	hair preps foot preps creams, lotions 2834 8 2842 332 2842 393 2844 156 2844 471 2844 514	Aromatic acid	White needles; white scales or needle crystals Sparingly soluble in water Solubility in water: at 0°=1.7 g/l; at 30°=4.2 g/l; at 60°=12.0 g/l; at 95°=68.0 g/l Solubility in water is increased by alkaline substances, such as borax or trisodium phosphate LD orally in dogs: 2 g/kg (tested as sodium benzoate) LD_{50} orally in rats: 1700 mg/kg Oxygen demand	Hackh's;CCD Hackh's;CCD Merck 8 Merck 8 Merck 8 Toxic Sub Heukelekian
Benzoin $C_6H_5CHOHCOC_6H_5$	2834 6 2844 519 2844 539	Ketone	White or yellowish crystals Slight camphor odor Slightly soluble in water	CCD CCD CCD
Benzothiazyl disulfide (See:2,2' - Dithiobis-benzothiazole)				
Benzoyl peroxide $(C_6H_5CO)_2O_2$	2011-2099 2821	Aromatic acid	White,granular,crystalline solid Faint odor of benzaldehyde Tasteless Insoluble in water	CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Benzyl alcohol $C_6H_5\ CH_2\ OH$	mouthwash Bath salts & oils 2834 6 2844 223 creams, lotions 2899 37 3842 161	Aromatic acid	Colorless aromatic liquid;a water-white liquid Sharp burning taste Faint aromatic odor,eventually slightly like benzaldehyde Slightly soluble in water One gram dissolves in about 25 ml water LD_{50} orally in rats: 3.1 g/kg LD i.p. in mice: about 250 mg/kg In humans,inhalation toxic concentration 12 mg/M	Hackh's;CCD Hackh's;CCD; Me8 CCD;Merck 8 Hackh's;CCD Merck 8 Merck 8 Toxic Sub Toxic Sub
o-Benzyl-p-chlorophenol $C_6H_5\ CH_2\ C_6\ H_3\ OH\ Cl$	Toilet bowl clnrs. Deods & disinf. 2841 5 2842 331 2842 332 2842 411 2842 423 2842 498	Phenol	LD_{50} orally in rats: 1700 mg/kg	Toxic Sub
Benzyl salicylate $C_6\ H_4\ (OH)\ COOCH_2\ C_6\ H_5$	2844 515	Aromatic acid Phenol	Colorless liquid Very faint sweet odor	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
26° Beryllium ammonium hydroxide	2893	Metal salt		
Beryllium oxide BeO	3231	Metal oxide	White amorphous powder Insoluble in water Dust is quite poisonous	CCD CCD CCD
Betel nut (See: Areca)				
BHC (See:Benzene hexachloride isomers)				
Bipyridium	2879			
2,3,4,5-bis-(2 Butylene Tetrahydrofurfural (See: R-11)	2842 381	Aldehyde	LD_{50} orally in rats: 2500 mg/kg	Toxic Sub
Bismuth Bi	3461	Metal	Grayish-white with reddish tinge and bright metallic luster	Merck 8
Bismuth acetate $Bi(OOCMe)_3$	2844 351	Metal salt	White powder Soluble in water	Hackh's
Bismuth benzoate, basic (See:Bismuth subbenzoate)		Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Bismuth subbenzoate $Bi(OOCC_6H_5)_3 \cdot Bi(OH)_3$ or $Bi(OOCC_6H_5)O$	2842 393	Metal salt	White powder Odorless Insoluble in water	CCD CCD CCD
Bismuth subgallate $C_6H_2(OH)_3COOBi(OH)_2$	2834 5	Metal salt	Saffron-yellow powder Odorless and tasteless Insoluble in water	CCD CCD CCD
Bismuth subnitrate $4BiNO_3(OH)_2 \cdot BiO(OH)$	creams, lotions 2834 6 2834 621	Metal salt	White, heavy, slightly hygroscopic powder Insoluble in water	CCD CCD
Bisphenol A $(CH_3)_2C(C_6H_4OH)_2$	2992	Phenol	White flakes Mild phenolic odor Insoluble in water	CCD CCD CCD
Bisphenol diglycol ether	2851 6			
Bithionol $C_{12}H_6Cl_4O_2S$	creams, lotions 2834 617 2844 156 2844 321 2844 511 2844 513	Organic sulfur compound Phenol	White or grayish-white crystalline powder; white crystals Odorless or with slight aromatic or phenolic odor Practically insoluble in water	CCD; Hackh's CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Bluing	2842 396	Synthetic coloring matter		
Bone oil	Dog/cat repellent 2834 9 2842 465		Dark brown, fixed oil Repulsive odor Soluble in water	CCD CCD CCD
Borate(s) $H_2 BO_3$	2842 393 2844 514 2899 336 2992 3941	Mineral acid		
Borax $Na_2 B_4 O_7 \cdot 10 H_2O$	2261 2491 2834 8 2834 9 2841 175 2841 3 2841 311 2842 332 2842 341 2842 351 2842 396 2842 397 2842 398 2842 442 2842 498 2844 133 2844 336	Mineral acid	White to grayish or greenish Sweetish alkaline taste Readily soluble in water LD_{50} orally in mice: 2100 mg/kg	CCD CCD CCD Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Borax (continued)	2844 351 2844 511 2844 512 2844 561 2851 863 2891 1 2899 3 2899 336 2899 337 2911 7 2992 3861 811 3952 3999 117 3999 411			
Boric acid H_3BO_3	2261 2491 2834 291 2834 5 2834 6 2834 621 2834 8 2834 9 2842 332 2842 423 2844 156 2844 471 2844 519 2844 523 2844 541 2844 543 2844 545 2911		Colorless,transparent crystals,or white granules or powder Triclinic white crystals Odorless;slightly unctuous to the touch Soluble in water One gram dissolves in 17 ml cold, 4 ml boiling water LD_{50} orally in rats: 3.0 g/kg In humans,lethal dose:about 45 mg/kg Incompatible with alkali carbonates & hydroxides	Merck 8 Hackh's Merck 8 Hackh's Merck 8 Merck 8 Toxic Sub Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Boric acid (continued)	3842 161 3861 811 3999 411			
Boric oxide $B_2 O_3$	3231 3431 3461 1 3641 3941	Metal oxide	Colorless powder or transparent glass Slightly bitter to taste Soluble in hot water;slightly soluble in cold water	CCD CCD CCD
Boron B	2821	Metal	Very soft,brown amorphous powder or crystals Insoluble in water	CCD CCD
Bromate(s) $Br O_3$	2011-2099 hair preps	Mineral acid		
Bromobenzene $C_6 H_5 Br$	2842 393	Halogenated hydrocarbon	Heavy,mobile,colorless liquid Pleasant characteristic odor Insoluble in water	CCD CCD CCD
n-Bromo-chlorodimethyl-hydantoin (3-Bromo-1-chloro-5,5-dimethylhydantoin) $BrCl (CH_3)_2 C_3 N_2 O_2$	2842 332	Hypochlorite	Free-flowing white powder Faint halogen odor	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Bromochloromethane Br CH_2 Cl	3999 113	Halogenated hydrocarbon	Clear,colorless,volatile liquid Chloroform-like odor Insoluble in water	CCD CCD CCD
Bronze (copper-tin alloy)	2514 2522 3941	Metal		
Brucine sulfate $(C_{23}H_{26}O_4N_2)_2H_2SO_4 \cdot 7H_2O$	2844 519	Alkaloid	White crystalline solid Bitter taste	CCD CCD
Burnt umber (See:Umber)				
1,3-Butadiene H_2C: CHHC: CH_2	3079 3079 65	Aliphatic hydrocarbon	Colorless gas (easily liquefied) Mild aromatic odor Insoluble in water In rats, inhalation lethal concentration: 285 mg/kg	CCD CCD CCD Toxic Sub
Butadiene/acrylonitrile (See:Nitrile Rubber)				
Butane C_4H_{10}	2842 351	Aliphatic hydrocarbon	Colorless gas Characteristic natural-gas odor Insoluble in water Has no corrosive action on metals;does not react with moisture In rats, lethal inhalation concentration: 658 mg/kg	CCD CCD CCD CCD Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
1-Butanol (See: n-Butyl alcohol)				
Butoben (See:Butyl paraben)		Phenol		
n-Butyl acetate $CH_3COOCH_2CH_2CH_3$	2842 398 2844 531 2844 533 2851 9 2891 179	Aliphatic acid Alcohol	Limpid,colorless liquid Fruity odor Slightly soluble in water Avoid prolonged breathing of vapor and prolonged or repeated contact with skin In humans,inhalation toxic concentration: 200 ppm Oxygen demand	CCD CCD CCD CCD Toxic Sub Heuk, Lamb
sec-Butyl acetate $CH_3COOCH\ (CH_3)\ (C_2H_5)$	2851 9 2891 1	Aliphatic acid Alcohol	Colorless Insoluble in water	CCD
tert-Butyl acetate $CH_3COOC\ (CH_3)_3$		Aliphatic acid Alcohol	Colorless Insoluble in water	CCD
Butyl acid phosphate	2891 171	Alcohol Mineral oil	Water-white liquid Insoluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Butyl Alcohols n-Butyl alcohol $CH_3\ CH_2CH_2CH_2\ OH$	2511 2842 3 2851 6 2851 9 2851 911 2891 171 2891 179 299 2 2899 337 2851 631	Alcohol	Highly refractive liquid Odor similar to that of fusel oil, but weaker LD_{50} orally in rats: 4.36 g/kg In humans, may cause irritation of mucous membranes, contact dermatitis, headache, dizziness, drowsiness; inhalation toxic concentration: 25 ppm	Merck 8 Merck 8 Merck 8 Merck 8; Toxic Sub
sec-Butyl alcohol $CH_3CH_2CH(OH)CH_3$			Liquid dl-form is soluble in 12 parts water Human toxicity same as n-butyl alcohol	Merck 8 Merck 8 Merck 8
tert-Butyl alcohol $(CH_3)_3\ COH$			Crystals Camphor-like odor Soluble in water LD_{50} orally in rats: 3.5 g/kg Oxygen demand	Merck 8 Merck 8 Merck 8 Merck 8 Heukelekian
N-tert-Butyl-2-benzothiazole sulfenamide $C_6\ H_4\ NCS\ (SNHC_4H_9)$	3069	Organic sulfur compound	Light buff powder or flakes (sometimes colored blue)	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Butyl benzyl phthalate $C_4H_9\ OOCC_6\ H_4\ COOC_7\ H_7$	2851 6	Aromatic acid	Clear,oily liquid Slight characteristic odor	CCD CCD
Butyl cellosolve (See:Ethylene glycol monobutyl ether)		Alcohol		
1,3-Butylene glycol $HOCH_2\ CH_2\ CH\ (OH)\ CH_3$	2899 337	Alcohol	Practically colorless liquid Odorless Completely soluble in water	CCD CCD CCD
Butyl-p-hydroxy benzoate (See: Butylparaben)				
Butylparaben $C_{11}\ H_{14}\ O_3$	2842 411	Phenol	Crystalline powder Slightly soluble in water	Merck 8 Merck 8
Butyl rubber	3069	Addition polymer	Has good resistance to chemical attack and aging	CCD
Butyl stearate (See also:Synthetic perfumes and oils) $C_{17}H_{35}COOC_4H_9$	lotions, creams 2844 333 2844 341 2844 513 2844 514 2844 533	Aliphatic acid	Colorless oleaginous material Practically odorless,sometimes with faint fatty odor Insoluble in water; slightly soluble in water	CCD CCD CCD;Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Butyric acid $CH_3CH_2\ CH_2\ COOH$	2842 332	Aliphatic acid	Oily liquid	Merck 8
			Unpleasant, rancid odor	Merck 8
			Miscible with water	Merck 8
			LD_{50} orally in rats:8.79 g/kg;low human toxicity	Merck 8
			LD_{50} orally in rats: 2940 mg/kg	Toxic Sub
Butyrolactone $OCH_2\ CH_2\ CH_2\ CO$	2891 1	Aliphatic acid	Colorless liquid	CCD
			Pleasant odor	CCD
			Miscible with water	CCD
			LD_{50} orally in mice is 1700 mg/kg	Toxic Sub
Butyronic acid	2842 332			
Cadmium Cd	3352 3461 3652 3952	Metal	Silver-white,blue-tinged lustrous metal	Merck 8
			Insoluble in water	Merck 8
			Cadmium salts are more toxic than those of zinc	Merck 8
			In humans,ingestion of the metal and sol compounds causes increased salivation, choking,vomiting,abdominal pain, diarrhea,tenesmus; inhalation of dust or fumes causes chest pains, cough, pneumonitis, etc.	Merck 8
			Inhalation of approx.lethal concentration in man is 9 mg/m.	Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cadmium chloride $CdCl_2$	2844 351	Metal salt	White crystals Soluble in water LD_{50} orally in rats: 88 mg/kg Human toxicity: See cadmium LD_{50} orally in rats is 88 mg/kg Toxicity	Hackh's Hackh's Merck 8 Merck 8 Toxic Sub III-B
Cadmium Selenide Cd Se	3651	Metal salt	White to brown crystals; turns red in sunlight Practically insoluble in water Decomposes in air or acids	Merck 8 Merck 8 Merck 8
Cadmium sulfide Cd S	hair preps 3651 3941 3952	Metal salt	Light-yellow or orange-colored crystals Practically insoluble in water (0.13 mg/ 100 ml H_2O)	Merck 8 Merck 8
Cadmium sulfo selenide	3952	Metal salt		
Caffeine $C_8H_{10}N_4O_2 \cdot H_2O$	2086	Alkaloid	White, fleecy masses or long flexible, silky crystals Odorless Bitter taste Slightly soluble in water; loses H_2O at 80°C LD_{50} orally in rats is 192 mg/kg LD_{50} SC in rats is 250 mg/kg Toxic dose of SC in (preg.) mouse is 200 mg/kg Toxic side effects: experimental teratogen in mouse	CCD CCD CCD CCD Toxic Sub Toxic Sub Toxic Sub Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Calamine	lotions creams 2834 617 2844 514 3842 161	Metal oxide	Pink powder Odorless Almost tasteless Insoluble in water	CCD
Calcite $CaCO_3$	3941	Metal salt	Colorless, white and various colors	CCD
Calcium Ca	2042 3949 2	Metal	Lustrous, silver-white surface when freshly cut Acquires bluish-gray tarnish on exposure to moist air Displaces hydrogen from water on contact	Merck 8 Merck 8 Merck 8
Calcium aluminate $3\ CaO \cdot Al_2\ O_3$	3241	Metal salt	Crystals or powder	CCD
Calcium aluminum silicate $Ca\ Al_2\ Si_2\ O_8$	2011-2099	Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Calcium carbonate (for paints - See also: Inert filler pigments) $CaCO_3$	2111 2621 2834 9 2844 4 2844 431 2844 523 2844 541 2844 543 2844 545 2844 598 2851 6 2851 8 2899 3 2891 183 3069 3269 3431 3952 3999 3	Metal salt	White powder or colorless crystals Odorless Tasteless Insoluble in water	CCD CCD CCD CCD
Calcium carbonate, precipitated $CaCO_3$	2621 100 dentifrices toothpaste toothpowder 2842 321 2844 411 2844 431 2891 179 3941 3949 2	Metal salt	Odorless,tasteless powder, white Insoluble in water;slightly soluble in water saturated with CO_2;solubility in water increased by ammonium salts Incompatible with acids,alum,ammonium salts Human toxicity large doses may cause constipation	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Calcium chloride $CaCl_2$	2844 451 2899 336 3941 3999 118	Metal salt	LD_{50} orally in rats is 4000 mg/kg	Toxic Sub
Calcium hydroxide $Ca(OH)_2$	2131 2842 311 2842 332 2844 598 2851 8 2851 811-857 2891 1 2891 179 3111	Inorganic base	Soft, white crystalline powder or granules Alkaline, slightly bitter taste Very slightly soluble in water LD_{50} orally in rats: 7.34 g/kg	Merck 8 Merck 8 Merck 8 Merck 8
Calcium hypochlorite(s) $Ca(OCl)_2$	2841 171 2842 332 2844 451 3941	Hypochlorite	White powder	Hackh's
Calcium iodate	2011-2099	Mineral acid		
Calcium pectate	2111	Carbohydrate		
Calcium peroxide CaO_2	2011-2099 2851 8 2851 811-857	Metal oxide	White or yellowish powder Odorless; almost tasteless Slightly soluble in water Decomposes in moist air	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Calcium petroleum sulfonates	2992	Sulfonated hydrocarbon		
Calcium phenolate(s) (See:Calcium phenoxide)				
Calcium phenoxide $Ca(OC_6H_5)_2$	2992	Phenol	Reddish powder Slightly soluble in water	Merck 8 Merck 8
Calcium phosphate(s)	toothpaste 2844 451	Metal salt Mineral acid		
Calcium phosphate, dibasic $CaHPO_4 \cdot 2H_2O$ and $CaHPO_4$	Dentifrices toothpastes 2051 2844 111 2844 411 2844 431	Metal salt Mineral acid	White crystalline powder; monoclinic crystals Odorless Slightly soluble in water	CCD;Merck 8 CCD CCD
Calcium phosphate, monobasic $CaH_4(PO_4)_2 \cdot H_2O$	mouthwash 2051 3941	Metal salt Mineral acid	Colorless, pearly scales or powder Soluble in water Aqueous solutions are acid	CCD CCD CCD
Calcium phosphate, tribasic $Ca_3(PO_4)_2$	mouthwash toothpaste 2099 284 411 2844 431 3999 117	Metal salt Mineral acid	The precipitated product is a white amorphous powder Odorless, tasteless Insoluble in water	CCD;Merck 8 CCD;Merck 8 CCD;Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Calcium propionate $Ca\ (OOCCH_2\ CH_3)_2$	2051 2842 393	Aliphatic acid	White powder Soluble in water	CCD CCD
Calcium pyrophosphate $Ca_2\ P_2\ O_7$	toothpaste 2844 4 3941	Metal salt Mineral acid	White powder Insoluble in water	CCD CCD; Merck 8
Calcium silicate $Ca\ Si\ O_3$	2011-2099	Metal salt	White, amorphous powder Insoluble in water	CCD CCD
Calcium-sodium salt of poly (vinylmethyl ether-maleate) copolymer	2844 498	Addition polymer		
Calcium stearate $Ca\ (C_{18}\ H_{35}\ O_2)_2$	creams, lotions 2011-2099 2821 2851 8 3652	Aliphatic acid	Granular, fatty powder Practically insoluble in water	Merck 8 Merck 8
Calcium stearyl-2 lactylate $C_{48}H_{86}\ Ca\ O_{12}$	2011-2099	Aliphatic acid	Free-flowing, nonhygroscopic powder Sparingly soluble in water pH of a 2% agueous suspension 4.7 Practically nontoxic to humans	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Calcium sulfate, anhydrous $CaSO_4$	2899 3 3941 3952	Metal salt	Orthorhombic crystals of varied colors, e.g., white,with blue,gray or reddish tinge, or brick red Solubility in water at 18.75° 0.2 pts./ 100 pts.	Merck 8 Merck 8
Calcium sulfate (extra) $CaSO_4$ or $CaSO_4 \cdot 2H_2O$	2051 2844 4 2844 431 3241	Metal salt	White powder Odorless Slightly soluble in water	CCD
Calcium thioglycolate $Ca(SCH_2COO)_2 \cdot 3H_2O$	2844 598	Organic sulfur compound	Stable white powder Slightly soluble in water	CCD CCD
Camphor $C_{10}H_{16}O$	deods & antipers lotions, creams foot prep 2821 2834 6 2834 611 2834 631 2834 635 2834 9 2842 3 2842 498 2844 156 2844 321 2844 513 2891 179 2911 3842 161 3952	Ketone	Translucent mass with crystalline fracture Familiar fragrant and penetrating odor Slightly bitter and cooling taste At 25° one gram dissolves in about 800 ml water (giving a colloidal solution) Incompatible with potassium permanganate and salts of any kind should not be added to camphor water MLD s.c. in rats: 2.2 g/kg LD_{50} i.p. in rats is 900 mg/kg.	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Camphorated alcohol(10%) (See:Camphor spirit)				
Camphor spirit	2844 519			
Candelilla wax	creams, lotions 2844 521 2844 545 3955 03	Aliphatic acid	Yellowish-brown,opaque to translucent solid wax Insoluble in water	CCD CCD
Cantharides tincture	2844 321		Dried insects Highly toxic	CCD CCD
Caprylate(s) (copper,sodium,Zinc)	2834 8	Aliphatic acid Metal salt		
Caprylic acid $CH_3 (CH_2)_6 COOH$	2834 8	Aliphatic acid	Colorless, oily liquid Unpleasant odor Burning rancid taste Very slightly soluble in water	CCD
Capsicum	2834 631 2834 635 2844 3 2844 321 3994		Red color	CCD
Caramel	2086 2087		Dark brown powder or thick liquid Bitter taste Burnt sugar odor Soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Caraway oil	2842 411 2844 4	Ketone Aliphatic hydrocarbon	Colorless or pale yellow, thin liquid oil Characteristic odor Mild, spicy taste Slightly soluble in water	CCD CCD CCD CCD
Carbamate(s) $C_9 H_{18} FEN_3 S_6$	2879			
Carbohydrates	2834 5		Low molecular weight carbohydrates, e.g. sucrose, are: crystalline sweet soluble in water High molecular weight carbohydrates, e.g. starch, are: amorphous tasteless relatively insoluble (in water)	 CCD CCD CCD CCD CCD CCD
Carbolic acid (See: Phenol)				
Carbon	2992 3069 8 3641 3651 3692 3955 03			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Carbon black	2621 100 2821 2842 498 2851 139 2851 8 2851 811-857 2891 179 2893 2893 03 2893 08 2899 37 3011 3241 3652 3952 3955 03 3999 3		Black, amorphous powder Insoluble in all solvents LD_{50} s.c. in rats is 120 mg/kg.	CCD CCD Toxic Sub
Carbon dioxide	2899 337 3274 3999 113			
Carbon disulfide CS_2	2262 2647 2851 9 2851 911 3999 113	Organic sulfur compound	Clear, colorless or faintly yellow liquid Almost odorless when pure; the commercial article has a strong disagreeable odor Slightly soluble in water Poisonous; vapor harmful LD_{50} s.c. in rabbits is 300 mg/kg.	CCD CCD CCD CCD Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Carbonic acid (CO_2) H_2CO_3	2842 332		No potential - ERA	CCD
Carbon tetrachloride CCl_4	pesticides 2842 3 2842 332 2842 341 2842 381 2842 393 2842 398 2851 863 2851 9 2851 911 3069 8 3861 811 3999 113	Halogenated hydrocarbon	Colorless liquid Peculiar odor Very slightly soluble in water Poisonous. Hazardous vapor and liquid; may be fatal if inhaled or swallowed Approx. lethal dose of inhalation in man is 1000 parts per million. Toxicity Oxygen Demand	CCD CCD CCD CCD Toxic Sub III-B Heukelekian
Carbopol C-934 Carbopol 600 Carbopol 640	toothpaste 2844 232 2844 411	Addition polymer	Trademark for a group of water-soluble resins having excellent gel forming properties Carbopol C-934, LD_{50} orally in rats is 4300 mg/kg	CCD Toxic Sub
Carbowax $HOCH_2 (CH_2 OCH_2)_x CH_2$ OH	2834 5 3952	Condensation polymer	Unctuous wax-like solids Dissolve in water forming transparent solutions Solvent action on some plastics Human toxicity - See: Ethylene glycol	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Carboxymethyl cellulose (See:Sodium carboxymethylcellulose)				
Carmine	2844 522	Synthetic coloring matter	Bright red pieces, easily powdered Slightly soluble in hot water	CCD CCD
Carnauba wax	2842 4 2842 411 2842 423 2842 465 2842 498 2844 521 2844 523 2844 545 2911 7 3955 03	Aliphatic acid Alcohol	Light yellow to dark greenish brown brittle lumps Peculiar, agreeable odor Insoluble in water	CCD CCD CCD
Casein	Barrier creams (protection) 2842 442 2844 514 2891 1 2891 171 2891 173 2891 179 3991 1 3999 3 2621	Aliphatic acid	White amorphous solid Odorless, tasteless Almost insoluble in water Oxygen demand	CCD CCD CCD Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Castor oil	2844 521 2844 533 2844 561 2851 6 2891 171 2911 2911 131 2992 3842 161 3949 2 3952	Aliphatic acid	Pale yellow, viscous liquid (oily) Slight, somewhat characteristic odor The crude oil tastes slightly acrid with a decidedly nauseating after-taste	Merck 8
Castor oil, sulfonated (See:Turkey Red Oil)				
Cedarwood oil	2841 115 2842 385 2842 411 2842 415 3941	Alcohol Aliphatic hydrocarbon	Volatile, colorless, pale yellow or greenish-yellow oil Mild, agreeable, persistent odor Poisonous	CCD CCD CCD
Celite	2842 311 2842 498	Metal oxide	White to pale brownish white; calcined grades, pink to buff Porous, capable of absorbing 300-400% water by weight	CCD CCD
Cellophane	2821	Carbohydrate		
Caustic soda (See: Sodium Hydroxide)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cellosize (See also:Hydroxyethyl-cellulose and sodium carboxymethyl cellulose) Cellosize CMC Cellosize HEC	deod 2844 498	Carbohydrate	Trademark for hydroxyethyl cellulose and sodium carboxymethyl cellulose Anionic, water-soluble polymer of cellulose Nonionic, water-soluble ether of cellulose	CCD
Cellosolve acetate (See:Ethylene glycol monoethyl ether acetate)				
Celluloid (See also:Cellulose nitrate)	2844 531	Carbohydrate	Clear and colored, transparent, translucent, and opaque in all shades	CCD
Cellulose acetate	2891 171 2891 179 3079	Carbohydrate	White flakes or powder	CCD
Cellulose and cellulose derivatives $(C_6H_{10}O_5)_n$	lotion 2262 2299 2647 2834 617 2842 321 2844 523 3079 3952	Carbohydrate	Cellulose is a white substance Practically insoluble in water Oxygen demand	Merck 8 Merck 8 Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cellulose, alpha	2649 1 2821 307	Carbohydrate	Oxygen demand	Heukelekian
Cellulose acetate butyrate	3079	Carbohydrate	White flakes or granules	CCD
Cellulose nitrate (See:Nitro cellulose) (See also:Celluloid)				
Cellulose polyethylene	2514 2522			
Cement,Portland (cement, hydraulic)	2851 8 2891 179 2891 183 2851 811- 857 3292	Metal salt	Fine gray powder Hardens slowly when mixed into a paste with water;hardening does not require air, and will occur under water	CCD CCD
"Cerelose"dextrose	2841 115	Carbohydrate	Trademark for a white, crystallized, refined dextrose (pure monosaccharide)	CCD
Ceresin (See:Wax, mineral)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ceric oxide CeO_2	3231	Metal oxide	Pale yellow,heavy powder;white,when pure commercial article is brown Insoluble in water Approx lethal dose orally in rats is 1000 mg/kg.	CCD CCD Toxic Sub
Cetyl alcohol $C_{16}H_{33}OH$	2834 6 2842 415 2844 341 2844 398 2844 511 2844 512 2844 513 2844 519 2844 521 2844 522 2844 523 2844 524 2844 525 2844 533 2844 539 2844 543 2844 545 2844 598	Alcohol	White flakes or granules Faint odor; tasteless Insoluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cetylpyridinium chloride C_{21} H_{40} Cl NO	2844 471	Pyridine	White powder Slight odor Freely soluble in water LD_{50} orally in rats: 200 mg/kg LD_{50} orally in rats: 400 mg/kg Toxicity	CCD;Merck 8 CCD CCD:Merck 8 Merck 8 Toxic Sub III-B
Chalk, precipitated (See:Calcium Carbonate, precipitated)				
Chamomile	2844 519	Aliphatic acid	Light blue or light greenish blue liquid Strong aromatic odor	CCD
Channel Black	3069			CCD
Charcoal	2842 3 2842 385 2899 3 3941		Product of destructive distillation of wood	CCD
Chemotherapeutic agents	2834 5			Hackh's
Chickle	2073	Carbohydrate		Merck 8
China Clay (See: Kaolin)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chloral hydrate CCl_3 CH $(OH)_2$	2844 321	Aldehyde	Transparent, colorless crystals Peculiar, pungent odor Soluble in water Skin irritant Poisonous LD_{50} orally in rats: 500 mg/kg Toxicity	CCD Merck 8 Merck 8 Merck 8 CCD Toxic Sub III-B
Chlorbutanol $(CH_3)_2$ C(OH) C . Cl_3	3842 161	Alcohol		
Chlorcyanuric Acid Derivatives	2844 451	Hypochlorite		
Chlordane C_{10} H_6 Cl_8	2834 9	Halogenated Hydrocarbon	Colorless liquid / Amber colored liquid Odorless Insoluble in water Harmful if swallowed or absorbed through skin Continued ingestion may cause degenerative changes in the liver LD_{50} orally in rats: 283 mg/kg Toxicity	CCD Merck 8 Merck 8 Toxic Sub III-B
Chlorendic acid C_9 H_4 Cl_6 O_4	2821	Aromatic acid	Fine, white crystals Slightly soluble in water	CCD
Chlorhydroquinone	3861 811	Phenol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chlorinated Aliphatic Acids	2879	Aliphatic acid		
Chlorinated Aryloxy Alkanoic Acids	2879	Aliphatic acids		
Chlorinated Benzoic Acids	2879	Aromatic acid		
Chlorinated Biphenyl	2851 8	Halogenated hydrocarbon		
Chlorinated Hydrocarbons	2821 2899 3 2899 337 2911 2992	Halogenated hydrocarbons	Toxic	Gleason
Chlorinated Paraffin $C_{24}\ H_{43.1}\ Cl_{6.9}$	2821 2851 8 2992	Halogenated hydrocarbon	Light yellow to light amber liquid	CCD
Chlorinated Phenols	2851 2 2841 4 2842 393 2851 211 2851 411	Phenol		
Chlorinated polyethers $(CH_2Cl)_2\ \overbrace{CCH_2\ OCH_2}$	3079 65	Halogenated hydrocarbon	Crystal Practically insoluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chlorinated Rubbers	2591,3941 2821 3941	Halogenated hydrocarbon	Insoluble in water	CCD
Chlorinated Trisodium Phosphate $4(Na_3PO_4 \cdot 12H_2O) \cdot NaOCl$	2841 553 2844 451	Metal salt Hypochlorite	White crystalline material Soluble in water	CCD CCD
Chlorine Cl	2011-2099	Chlorine	Greenish - yellow gas Soluble in water Suffocating odor Powerful uritant; can cause fatal pulmonary edema Toxic concentration of inhalation in man: 5 parts per million Toxic side effects of inhalation in man is effects on the pulmonary system, respiration and respiratory pathology	Merck 8 Merck 8 Merck 8 Merck 8 Toxic Sub Toxic Sub
Chlorine dioxide ClO_2	2011-2099	Chlorine	Red-yellow gas Soluble and decomposed in water Dangerous explosive	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chloroacetic acid CH_2 ClCOOH	2842 332	Aliphatic acid	Colorless or white deliquese crystals Very soluble in water Irritating to skin and mucous membranes LD_{50} orally in rats: 76 mg/kg Toxicity	Merck 8 Merck 8 Merck 8 Merck 8 Toxic Sub III-B
Chloracetophenone (chloroacetophenone) (alpha) C_6 H_5COCH_2 Cl (para) ClC_6 H_4 $COCL_3$	3999	Ketone	White crystals Floral odor Poison, tear gas Approx. lethal dose of inhalation in man 8500 mg/M	CCD CCD CCD Toxic Sub
o-Chlorobenzal malononitrile	3999		Tear gas	CCD
Chlorobenzene C_6 H_5 Cl	2851 9 2851 911	Halogenated hydrocarbon	Colorless. Not unpleasant odor Insoluble in water May act as irritant to respiratory tract and as CNS depressant LD_{50} orally in rats: 2910 mg/kg	Merck 8 Merck 8 Merck 8 Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
4-Chloro-m-cresol $C_7 H_7 ClO$		Phenol	Odorless to phenolic odor 1 gram dissolves in 260 ml water Toxicity - see cresol LD_{50} S.C. in rats: 400 mg/kg	Merck 8 Merck 8 Merck 8 Toxic Sub
Chloroethene (See:Vinyl chloride)				
Chloroform $CHCl_3$	2095 2834 635 2842 398 3999 113	Halogenated hydrocarbon	Colorless liquid Characteristic odor One ml dissolves in 200 ml water Large doses may cause hypotension, respiratory and myocardial depression and death Toxic concentration of inhalation in man: 10 parts per million Toxic side effects in man is effects on metabolic and excretory processes of the liver and kidney Toxicity Oxygen demand	Hackh's Merck 8 Merck 8 Merck 8 Toxic Sub Toxic Sub III-B Heukelekian
p-Chlorometaxylenol (See:4-chloro-3,5-xylenol				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chloronaphthalene $C_{10} H_7 Cl$	2842 393 2899 337	Halogenated hydrocarbon	Picrate yellow needles Oily liquid	Merck 8 Merck 8
Chlorophenols	2992	Phenol	Approx. lethal dose orally in rats: 670 mg/kg	Toxic Sub
Chloro - o - phenyl phenol $C_6 H_3 (OH) Cl C_6 H_5$	2295 2841 5 2842 332 2842 393 2842 398	Phenol	Clear, colorless to snow colored viscous liquid Faint characteristic odor	CCD CCD
Chlorophyll a) $C_{55}H_{72}Mg N_4 O5$ b) $C_{55} H_{70} Mg N_4 O_6$ Chlorophyllin (See:Chlorophyll)	2842 385 2844 4 2844 471		Waxy, blue-black crystals Non-poisonous LD_{50} i.p. in mouse is 400 mg/kg Odor	CCD CCD Toxic Sub
Chloroprocaine Hydrochloride $C/NH_2 C_6 H_3 COOC_2 H_4 N (C_2 H_5)_2 . HCl$	2834 613	Aniline Aromatic acid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chlorothymol $CH_3\ C_6\ H_2\ (OH)\ (C_3H_7)$ Cl	2844 4	Phenol	White crystals, become discolored with exposure to light Characteristic odor One gram dissolves in 1000 ml water	CCD CCD Merck 8
Chlorotrifluoroethylene Resins $(CF_2 - CFCl)_n$	3461 4	Addition polymer Halogenated hydrocarbon Fluorine compound	Colorless Lethal concentration of inhalation in rats: 4000 parts per million	Toxic Sub
4-Chloro - 3,5 - xylenol $C_8\ H_9\ ClO$	2834 617 2842 393 2844 321	Phenol	Phenolic odor One gram dissolves in 3 l of water Toxicity: See Phenol	Merck 8 Merck 8
Chlesterin (See:Cholesterol)				
Cholesterol $C_{27}H_{46}\ O$	2844 31 2844 341 2844 523	Sterol	Practically insoluble in water White or faintly yellow crystals Almost odorless	Merck 8 CCD CCD
Chondrus (See: Irish Moss)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chromic acid CrO_3	2841 115	Mineral acid	Dark-purplish-red crystals Soluble in water Destructive to animal and vegetable tissues. May cause burns and external ulcers. Toxic side effects of inhalation in man: 0.11 mg/M Toxic side effects in man are carcinogenic	CCD CCD CCD Toxic Sub Toxic Sub
Chromicoxide Cr_2O_3	3231 3241 3411 3952	Metal oxide	Bright green crystalline powder Insoluble in water	CCD CCD
Chromic sulfate a) $CR_2(SO_4)_3$ b) $CR_2(SO_4)_3 \cdot 15H_2O$ c) $CR_2(SO_4)_3 \cdot 18H_2O$	3111	Metal salt	$CR_2(SO_4)_3$ - Violet or red powder - insoluble in water $CR_2(SO_4)_3.15H_2O$ - Dark green amorphous scales - soluble in water $CR_2(SO_4)_3.18H_2O$ - violet cubes - soluble in water Approx. lethal dose i.v.in mouse: 247 mg/kg.	CCD CCD CCD Toxic Sub
Chromium Cr	2851 8 3411 3461 3641	Metal	Hard-brittle steel gray metal Insoluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Chromium oxide (See: Chromic oxide)				
Chromium Potassium Sulfate (chrome alum) $CrK(SO_4)_2 \cdot 12 H_2O$	3861 811 3941	Metal salt	Dark, violet red crystals Soluble in water	CCD CCD
C.I., S.P. Compounds	2992			
Cinnamic acid $C_9 H_8 O_2$	2844 515	Aromatic acid	Methyl ester - crystals fruity, balsamic odor insoluble in water Ethyl ester - liquid fruity, balsamic odor insoluble in water Benzyl ester - Prisms Balsamic odor insoluble in water	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Citric Acid $HOOCCH_2C(OH)(COOH)CH_2$ $COOH \cdot H_2O$	2086 2087 2111 2279 2834 5 2841 115 2841 175 2841 179 2841 553 2842 332 2842 498 2844 519 2844 539 2899 3 2899 37 3861 811 3941	Aliphatic acid	Colorless, translucent crystals or white powder Odorless Very soluble in water LD_{50} i.p. in rats: 975 mg/kg Oxygen demand	CCD CCD CCD Toxic Sub Heukelekian
Citronella oil	2834 9 2842 411 2992	Aldehyde	Light yellowish oil Pungent, citrus-type odor LD_{50} orally in rats: 1000 mg/kg	CCD CCD Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Clay	2621 2641 2841 553 2842 341 2842 398 2844 545 2893 2893 03 2911 2952 2 3269 3431 3952 3999 117	Metal salt	Aluminum silicate rock e.g. china clay ball clay fire clay stoneware clay	CCD
Cloves, oil of	2111 2844 321 2844 4	Phenol	Pale yellow, thin liquid; thickens and darkens with age and exposure Strong aromatic odor	CCD CCD
CMC (See:Sodium carboxymethyl cellulose)				
Coal Tar	2842 332 2851 611 2851 613	Aromatic hydrocarbon Pyridine	Black, viscous liquid Characteristic naphthalene-like odor Slightly soluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cobalt chlo[illegible]e $Co\ Cl_2$	2844 351 3941	Metal salt	Pale blue hygroscopic leaflets, turn pink on exposure to moist air Soluble in water MLD, S.C. in rabbits 200 mg/kg Approx. lethal dose s.c. in mouse is 100 mg/kg Toxicity	Merck 8 Merck 8 Merck 8 Toxic Sub III-B
Cobaltic oxide $Co_2\ O_3$	3461 1	Metal oxide	Steel gray or black powder Insoluble in water LD_{50} orally in rats: 1700 mg/kg	CCD CCD Toxic Sub
Cobaltons Linoleate (Cobalt Linoleate) $Co\ (C_{18}H_{31}\ O_2)_2$	2893 03	Metal salt	Brown amorphous powder Insoluble in water	CCD CCD
Cobaltons Naphthenate (Cobalt Naphthenate)	2893	Metal salt	Brown amorphous powder or bluish-red solid Insoluble in water	CCD
Cobalt Naphthenate (See:Cobaltons Naphthenate)				
Cobalt Potassium Nitrite $K_3\ Co\ (NO_2)_6$	3952	Metal salt	Yellow microcrystalline powder Slightly soluble in water	CCD CCD
Cobalt Violet (See:Ammonium Cobaltons Phsophate)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cocaine Hydrochloride $C_{17}H_{21}NO_4 \cdot HCL$	2834 613	Alkaloid	Colorless crystals or white crystalline powder Soluble in water Poisonous, habit forming drug	CCD CCD CCD
Cochineal	3941	Aromatic acid Phenol Ketone	Red matter	CCD
Cocoa	2072	Alkaloid	Weak reddish to brown powder Chocolate-like odor	CCD CCD
Cocoa butter (See:Theobroma oil)				
Coconut Fatty Acid Amides	2842 3	Aliphatic Acid		
Coconut Oil Soap	2834 9 2841 3 2842 332 2842 341 2842 351 2842 411 2844 133 2844 31	Aliphatic acid	White, semi-solid, lard-like fat, oils Characteristic odor	CCD CCD
Cod Liver Oil	2844 514	Aliphatic Acid	Pale yellow liquid Slightly fishy odor	CCD CCD
Cola	2086	Alkaloid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cocaine Hydrochloride $C_{17}H_{21}NO_4 \cdot HCl$	2834 613	Alkaloid	Colorless crystals or white crystalline powder Soluble in water Poisonous, habit forming drug	CCD CCD CCD
Cochineal	3941	Aromatic acid Phenol Ketone	Red Matter	CCD
Cocoa	2072	Alkaloid	Weak reddish to brown powder Chocolate-like odor	CCD CCD
Cocoa butter (See: Thiobroma oil)				
Coconut Fatty acid amides	2842 3	Aliphatic acid		
Coconut oil soap	2844 133 2834 9 2841 3 2842 332 2842 341 2842 351 2842 411 2844 31	Aliphatic acid	White, semi-solid, lard-like fat, oils Characteristic odor	CCD CCD
Cod Liver oil	2844 514	Aliphatic acid	Pale yellow liquid Slightly fishy odor	CCD CCD
Cola	2086	Alkaloid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cold Cream	2841 311 2844 523	Aliphatic Acid	White, scented ointment cosmetic, consisting of wax, spermaceti, olive oil or other fat emulsified with rose water.	Hackh's
Collagen	3842	Aliphatic acid	A protein	Merck 8
Collodion	3842 161	Carbohydrate	Pale yellow, syrupy liquid Odor of ether Immiscible with water	CCD CCD CCD
Colloid 581-B	3069 8		A special type of liquid mixture or suspension in which the particles of suspended liquid or solid are present in very finely divided form.	CCD
Cologne essence (See:Essential oils)				
Coloring	2086 2087 2842 3 2842 365 2842 4 2842 415 2842 423 2842 498 2844 351 2844 471 2844 521 2844 561 2911 7 3999 117			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Copper Cu	2491 2649 1 2834 9 2992 3231 3432 3461 3641 3651 3941 3952 3961	Metal	Reddish, lustrous, ductile, malleable metal May be toxic A relationship between copper and hemochromatosis has been reported	Merck 8 Merck 8 Merck 8
Copper Carbonate $Cu_2 (OH)_2 CO_3$	3941 3952	Metal salt	Green powder Insoluble in water Poisonous LD_{50} orally in rats: 159 mg/kg	CCD CCD CCD Toxic Sub
Copper Chloride $Cu CL_2$	2842 3 2844 351		Cuprons - green to blue to brown on exposure to moisture and light Sparingly soluble in water Cupric - green to blue Soluble in water Toxicity - Cupric - irritating to skin, mucous membranes poisonous LD_{50} orally in rats: 140 mg/kg	Merck 8 Merck 8 Merck 8 CCD Toxic Sub
Copper chrome arsenate	2491	Metal salt		
Copper hydrate (See:Copper hydroxide)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Copper Hydroxide $Cu(OH)_2$	2861	Metal salt	Blue powder Insoluble in water Poisonous	CCD CCD CCD
Copper Linoleate	2861	Metal salt		
Copper 6% Liquid Linoresinate	2842 3	Metal salt		
Copper Naphthenate	2295 2842 393 2861 2911	Metal salt	Green blue solid	CCD
Copper Oleate $Cu(C_{18}H_{33}O_2)_2$	2842 393 2861	Metal salt	Brwn powder or greenish blue mass Insoluble in water Poisonous, see also copper	CCD CCD CCD; Merck 8
Copper - 8 - quinolino-leate (See:Cunilate)				
Copper Resinate (Cupric resinate)	2842 393	Metal salt	Green powder Insoluble in water Poisonous	CCD CCD CCD
Copper Silicates	2879	Metal salt	Complex Mixtures	CCD
Copper soap (See:Soap,metallic)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Copper sulfate $Cu\ SO_4 \cdot 5H_2O$	2841 115 2842 3 2842 498 2851 128 2851 618 2879	Metal salt	Blue crystals or blue crystalline granules Soluble in water- poisonous Approx.lethal dose orally in rats: 300 mg/kg Approx. lethal dose orally in rabbits: 50 mg/kg	CCD CCD - CCD Toxic Sub Toxic Sub
Copper Sulfate Penta-hydrate (See:Copper Sulfate)				
Corn Starch (See:Starch)				
Corn Syrup (See:Glucose)				
Cortisone Acetate $C_{23}\ H_{30}\ O_6$	2834 291	Sterol	White or practically white crystalline powder Odorless Insoluble in water Sensitive to light	CCD CCD CCD CCD
Cotton (See:Fibers,natural)				
Cottonseed Oil		Aliphatic acid	Pale yellow oily liquid	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Coumarin $C_9 H_6 O_2$	2844 515	Aromatic acid	Colorless crystals, flakes or powder Fragrant odor Slightly soluble in water Approx.lethal dose i.p. in mouse: 62.5 mg/kg	CCD CCD CCD Toxic Sub
Conmarone Indene Resin	2851 131	Addition polymer		
Creosate	2491 2834 9 3069 8	Phenol	Yellowish to dark green brown, oily liquid Characteristic odor Immiscible with water Poisonous, may cause skin irritation Approx.lethal dose orally in rabbits: 600 mg/kg	CCD CCD CCD CCD Toxic Sub
Cresol $C_7 H_8 O$ m-cresol	2842 332 2842 393 2851 863 2851 911 2899 37 2899 337	Phenol	Colorless, yellow brownish-yellow or pinkish liquid. Becomes darker with age & exposure. Phenolic odor Soluble in about 50 parts water Poisonous:Orally, 8g or more produces rapid circulatory collapse,death. Chronic poisoning from oral or percutaneous absorption may produce digestive disturbances, nervous disorders with faintness, vertigo, mental changes, skin eruptions, jaundice, oleguria, uremia. See also Phenol for toxicity. Colorless or yellowish liquid	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cresol (continued from previous page)				
m-cresol			Phenolic odor Soluble in about 40 parts water See toxicity above.	
			Oxygen demand	Heukelekian
o-cresol			Crystals darken with age Phenolic odor Soluble in 40 parts water See toxicity above.	
			Oxygen demand	Heukelekian
p-cresol			Crystals Phenolic odor Soluble: 2.5g in 100 ml Toxicity see above	
			Oxygen demand	Heukelekian
			Toxicity	III-B
			m-cresol - LD_{50} orally in rats:2020 mg/kg	Toxic Sub
			LD_{50} i.p. in mouse: 168 mg/kg	Toxic Sub
			o-cresol - LD_{50} orally in rats: 1350 mg/kg	Toxic Sub
			Approx. lethal dose i.v.in dog: 80 mg/kg	Toxic Sub
			p-cresol - LD_{50} orally in rats: 1800 mg/kg	Toxic Sub
			LD_{50} i.p. in mouse is 24.8 mg/kg	Toxic Sub
			Approx. lethal dose i.p. in guinea pig: 100 mg/kg	Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cresylic Acid $C_7 H_8 O$	2842 332 2851 9	Phenol	Hazardous liquid, rapidly absorbed through skin causes severe burns	CCD
Croton oil	2834 631	Aliphatic acid	Brownish yellow liquid Poisonous. Causes eruptions on skin	CCD CCD
Cube resins	2834 9		Toxicity due to rotenone	Gleason
Cunilate	2842 393 2891 173 2891 171 2891 173 3069 8	Copper salt Pyridine	Greenish yellow	CCD
Cuprammonium	2842 393	Metal salt		
Cuprons Oxide (Red Copper Oxide) $Cu_2 O$	2851 128 2851 613 2851 618	Metal oxide	Reddish brown crystalline powder Insoluble in water Harmful if swallowed	CCD
Cutting oil or Cutting Fluid	2992	Aliphatic acid Halogenated hydrocarbon Aliphatic hydrocarbon	A liquid applied to a cutting tool to assist in the machining operation by washing away the chips or as a lubricant or coolant	CCD
Cyanide	3111	Cyanides	Toxicity	III-B
Cyanuric Acid $HO.C:(N.C.OH)_2:N.2H_2O$	2842 332	Aromatic acid	Colorless Monoclinics One gram dissolves in 200 ml water	Hackh's Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cyamuric Acid, Chlorinated	2842 332	Hypochlorite		
Cyclohexane $C_6 H_{12}$	2851 9 2851 911	Aliphatic hydrocarbon	Colorless mobile liquid Pungent odor Immiscible with water Approx. lethal dose orally in mouse: 813 mg/kg	CCD CCD CCD Toxic Sub
Cyclohexanol $C_6 H_{11} OH$	2842 411 2842 465 2851 9 2851 911	Alcohol	Oxygen demand Colorless oily liquid Camphor-like odor Sparingly soluble in water Vapor harmful. LD_{50} orally in rats: 2060 mg/kg Toxic concentration inhalation in man is 100 parts per million Toxic side effects: mucous membrane, irritant in man	Heukelekian CCD Toxic Sub Toxic Sub Toxic Sub
Cyclohexanone $C_6 H_{10} O$	2821 2851 9	Ketone	Water-white to pale yellow liquid Acetone and peppermint-like odor Miscible with most solvents Vapor harmful LD_{50} orally in rats: 3460 mg/kg Toxic concentration inhalation in man is greater than 50 parts per million LD_{50} i.p. in mouse is 1950 mg/kg Toxic side effects inhalation in man: irritant	CCD Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
N-cyclohexyl-2-benzo-thiazole-sulfenamide $C_6H_4SNCSNHC_6H_{11}$	3011	Organic sulfur compound	Cream colored powder Insoluble in water	CCD
2-Cyclohexyl Cyclo-hexanol $C_6H_{11}C_6H_{10}OH$	2842 135	Alcohol	Colorless liquid Very slightly soluble in water	CCD
Cyclonite $\overline{N(NO_2)CH_2N(NO_2)CH_2N(NO_2)CH_2}$	2892		White crystalline compound Insoluble in water LD_{50} orally in rats: 200 mg/kg	CCD Toxic Sub
Cycloparaffin			A hydrocarbon in which three or more of the carbon atoms in each molecule are united in a ring structure, and each ring carbon atom is joined by two hydrogen atoms or alkyl groups. Examples: Cyclopropane, Cyclobutane, Cyclopentane, Cyclohexane } & derivatives	CCD
Cyclotrimethylenetrini-tramine (See:Cyclonite)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Musks	2844 223 2844 233	Ketone Sterol	Odorous	Merck 8
Mustard oil, volatile	2834 9	Thiocyanate Sulfur compound	Colorless to pale yellow limpid liquid slowly changing to reddish-brown on exposure to light Pungent, acrid odor and taste	CCD CCD
Mustard oil, expressed		Thiocyanate Sulfur compound	Straw-colored or brownish-yellow, or greenish-brown liquid Insoluble in water	Merck 8 Merck 8
Myristic acid $C_{13}H_{27}COOH$	hair preps 2851 631 2851 638	Aliphatic acid	Nontoxic by oral administration	Gleason

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Naphtha (See:Petroleum benzin)				
Naphtha, painters (See also:Mineral spirits)	cleaners 2842 3 2851 6 2851 811-857 2851 863 2851 898 2893	Aliphatic hydrocarbon		
Naphtha, V.M. & P. (See:Naphtha, painters)				
Naphthalene $C_{10}H_8$	pesti-cides 2834 9 2842 3 2842 332 2842 341 2842 381 2842 385 2842 351 2851 911	Aromatic hydrocarbon	Monoclinic prismatic scales; white scales, powder, balls, or cakes Odor of moth balls Insoluble in water Volatilizes appreciably at room temp. In humans, poisoning may occur by ingestion of large doses, inhalation, or skin absorption, causing nausea, vomiting, headache, diaphoresis, hematuria, hemolytic anemia, fever, hepatic necrosis, convulsions, coma. Toxicity Oxygen demand - zero	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 III-B Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Naphthalene sulfonic acid(s) $C_{10}H_7SO_3H \cdot H_2O$	3111	Sulfonated hydrocarbon	∝-naphthalenesulfonic acid: Deliquescent crystals Soluble in water B-naphthalenesulfonic acid: Non-deliquescent, white plates Soluble in water	 CCD CCD CCD CCD
Naphthenes $C_{10}H_8$	2851 9	Aliphatic hydrocarbon		
Naphthenic acids 1.) $C_6H_{11}COOH$ 2.) $R \cdot (CH_2)_n COOH$	2861	Aliphatic acids	Known members of this group are apparently colorless or faintly colored oily liquids Slightly soluble in water Commercial naphthenic acid, a mixture, is usually dark colored, malodorous, and corrosive to metals.	CCD CCD CCD
Naphthol $C_{10}H_7 \cdot OH$	2851 9 2851 911	Phenol	∝-Naphthol: Colorless monoclinic crystals Soluble in water Oxygen demand	Hackh's Hackh's Heukelekian
B-Naphthol $C_{10}H_7OH$	2844 321 2842 393	Phenol	White, lustrous, bulky leaflets, or white powder; darkens with age on exposure to light Faint phenol-like odor Slightly soluble in water; one gram dissolves in 1000 ml water, 80 ml boiling water LD orally in rabbits: 3.8 g/kg	CCD;Merck 8 CCD;Merck 8 CCD;Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
B-Naphthol (continued)			In humans, oral ingestion of large quantities may cause nephritis, lens opacity, vomiting, and diarrhea, abdominal pain, circulatory collapse, convulsions, hemolytic anemia, death. Fatal poisoning from external application has been reported. Oxygen demand Toxicity	Merck 8 Heukelekian III-B
Naphthol sulfonates	2844 515	Phenol		
2-Naphthyl lactate $CH_3CHOHCOOC_{10}H_7$	2893 04	Phenol	Crystals Insoluble in water	Merck 8 Merck 8
Neatsfoot oil	2842 465	Aliphatic acid	Fixed, pale yellow oil Peculiar odor	CCD
Neomycin A) $C_{12}H_{26}N_4O_6$ B & C) $C_{23}H_{46}N_6O_{13}$	2834 291		An antibiotic, consisting of a family of at least four related compounds. The marketed form (as the sulfate) appears to be a single compound with a chemical structure believed to be similar to that of streptomycin. Stable and active in alkaline solution	CCD CCD
Neoprene	2891 171 2891 179 3069 3411	Addition polymer Halogenated compound	Creamy white or amber chips, or dark brown putty-like solids	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Nephelite $(Na,K)(Al,Si)_2O_4$	3269	Metal salt	Colorless, white, yellowish; luster vitreous to greasy	CCD
Nickel Ni	2491 3432 3461 1 3641 3651	Metal	Lustrous, white, hard, ferromagnetic metal Not affected by water In humans, may cause dermatitis in sensitive individuals. Ingestion of soluble salts causes nausea, vomiting, diarrhea.	Merck 8 Merck
Nickel-chromium steel (Chrome)	2514 2522 3941	Metal		
Nickel-copper alloys	3651	Metal		
Nickel sulfate $NiSO_4 \cdot 6H_2O$	2844 351	Metal salt	Emerald green, transparent crystals Sweet, astringent taste Soluble in 1.4 parts water Aqueous solution is acid: pH about 4.5 LD s.c. in guinea pigs: 62 mg/kg Toxicity	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 III-B
Nicotine $C_{10}H_{14}N_2$	2111 2121 2834 9	Alkaloid	Thick water-white levorotatory oil, turning brown on exposure to the air Hygroscopic Soluble in water Poisonous	CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Nigrosine	2842 444 2899 37	Synthetic coloring matter	A class of blue or black dyes Some soluble in water	CCD CCD
Ninhydrin $C_9H_4O_3 \cdot H_2O$	3941		White crystals or powder Soluble in water	CCD CCD
Nitric acid HNO_3	2842 498 2851 511-500 2851 711-700 3861 811	Mineral acid	Colorless liquid Characteristic choking odor With water it forms a negative azeotrope (min vapor pressure, max bp), so-called constant boiling acid at 68% HNO_3, bp 120.5°, d_4^{20} 1.41. Stains woolen fabrics and animal tissue a bright yellow. In the presence of traces of oxides it attacks all base metals except Al and special Cr steels which become passivated. Oxidizing agent. Reacts violently with alcohol, turpentine, charcoal, organic refuse. In humans, ingestion causes burning and corrosion of mouth, esophagus, stomach; abdominal tenderness, shock, death. Inhalation: continued exposure to vapor may cause chronic bronchitis; chemical pneumonitis may occur.	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Nitrile rubber $-CH_2CH{=}CHCH_2CH_2CH(CN)-$	2299 2641 3069 3079	Addition polymer	Examples: "Hycar" and "Chemigum" Good impermeability to water	CCD CCD
m-Nitroaniline $C_6H_6N_2O_2$	2879	Aniline Nitro compound	Yellow crystals One gram dissolves in 880 ml water Forms water-soluble salts with mineral acids Absorbed through skin. In humans, acute exposure can cause methemoglobinemia cyanosis; chronic exposure may cause liver damage.	Merck 8 Merck 8 Merck 8 Merck 8
Nitrobenzene $C_6H_5NO_2$	2841 175 2842 423 2851 9 2851 911 3111	Nitro compound	Bright yellow crystals or yellow, oily liquid Very slightly soluble in water Poisonous. Extremely hazardous liquid and vapor, rapidly absorbed through the skin Oxygen demand - zero	CCD Heukelekian
6-Nitrobenzimidazole $O_2NC_6H_4NHCH{:}N$	3861 811	Nitro compound	Solid Slightly soluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Nitrocellulose	2261 2511 2641 2844 531 2851 511-500 2851 6 2851 711-700 2851 631 2891 1 2891 171 2891 179 2899 3 2911 3079 3651 3961	Carbohydrate	Yellow granules	Hackh's
Nitroethane $CH_3CH_2NO_2$	2851 9 2851 911	Nitro compound	Colorless liquid Solubility in water 4.5 cc/100 cc (20°C)	CCD CCD
Nitrogen N	2261 2821 3641 3994 3999 113		Gas; has been condensed to a liquid, bp-195.8°; solidifies to a snow-white mass, mp - 209.8° Odorless Sparingly soluble in water: 100 volumes of water absorbs 2.4 volumes of gas at 0°, 1.6 volumes at 20°. In humans, in high concentrations it is a simple asphyxiant.	Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Nitrogen dioxide NO_2		Inorganic acid	Reddish-brown gas Irritating oder Decomposes in water forming nitric acid and nitric oxide, reacts with alkalies to form nitrates and nitrites. Deadly poison, an insidious gas. In humans, inflammation of lungs may cause only slight pain or pass unnoticed, but the resulting edema several days later may cause death. 100 ppm is dangerous for even a short exposure, and 200 ppm may be fatal.	Merck 8 Merck 8 Merck 8 Merck 8
Nitrogen oxides (See also:Nitrogen dioxide) a) N_2O b) NO c) N_2O_4 d) N_2O_5	2011-2099	Inorganic acid		
Nitromersol $C_7H_5HgNO_3$	3842 161	Phenol Metal salt Nitro compound	Yellow powder or granules Odorless; tasteless Insoluble in water	Merck 8 Merck 8 Merck 8
Nitromethane CH_3NO_2	2851 9 2851 911 2911 2911 131	Nitro compound	Liquid Colorless Solubility in water 9.5 cc/100 cc (20°C)	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
p-Nitrophenol $NO_2C_6H_4OH$	2842 393	Phenol	Yellowish monoclinic prismatic crystals Soluble in hot water	Merck 8 Merck 8
4-Nitro-o-phenylene-diamine $C_6H_7N_3O_2$	2844 351	Aniline	Dark red needles (from hot water) Sparingly soluble in water	Merck 8 Merck 8
2-Nitro-p-phenylenedia-mine	2844 351	Aniline		
Nitrosyl chloride NOCl	2011-2099	Inorganic acid	Reddish-yellow gas; liquid at -5.5°; solid at -61.5° Decomposed by water In humans, intensely irritating to eyes, skin, mucous membranes; inhalation may cause pulmonary edema, hemmorhage	Merck 8 Merck 8 Merck 8
Nitrous oxide (See also:Nitrogen oxides) N_2O	2842 615		Gas; condensable into a colorless liquid Colorless, sweet-tasting Slightly soluble in water	CCD CCD CCD
Nitropropane $CH_3CH_2CH_2NO_2$	2851 9 2851 911	Nitro compound	1 - Nitropropane: Colorless liquid Solubility in water 1.4 ml/100 ml (20°C) 2 - Nitropropane: Colorless liquid Solubility in water 1.7 ml/100 ml (20°C)	CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Nonoxynol (See also: Iodophor)		Alcohol		
Nonyl phenol polyethylene glycol ether	2842 332			
Nonyl phenoxy polyethoxy ethanol	2842 331 2842 332			
Nonylphenoxy polyoxyethylene ethanol	2842 331 2842 332			
Nonylphenylether of polyethylene glycol-iodine complex (See also: Iodophor)				
Nonylphenoxy polyethoxy ethanol-iodine complex	air clnrs, deods 2842 311			
Nupercaine (See: Dibucaine)				
Nylon (See: Fibers, synthetic)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Octachloro -4, 7-Metha-notetraindene	2834 9	Halogenated Hydrocarbon		
Octyl phenoxy poly-ethoxy ethanol $(CH_3)_3CCH_2C(CH_3)_2C_6H_4O(CH_2CH_2O)_xH$	2842 331 2842 332	Alcohol	Clear, yellow viscous liquid Faint odor Soluble in water	CCD
Octyl phenoxy poly-ethoxy ethanol-iso-propanal	2842 332	Alcohol		
Oils	2086 2298 2299 2844 513 2844 514 2844 521 2844 545 2841 175 2851 139 2851 6 2893 08 2899 37 2911 3011 3079 65			
Oil of allspice (See:Pimento oil)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Oil, almond (sweet)	2844 513 2844 523 2844 539	Aliphatic acid	Yellowish, oily liquid Odorless Insoluble in water	CCD
Oil of bergamat	2844 341			
Oil of cinammon	2111 2844 321 2844 4	Aldehyde	Light yellow liquid to brownish Darkens on exposure to air Oily Characteristic odor Slightly soluble in water	Merck 8
Oil, cottonseed	2851 5 2851 7 2851 511	Aliphatic acid	Pale yellow and yellowish-brown to dark ruby-red or black-red oil Odorless	CCD
Oil of lavender	2844 519			
Oil of mustard (See:Mustard oil, volatile)				
Oil, peach kernel	2844 513 2844 523			
Oil of peppermint	2111 2844 4 2844 498	Alcohol	Colorless or slightly yellowish oil Very strong aromatic minty odor	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Oil of pine	2834 635 2834 9 2841 5 2842 2 2842 312 2842 331 2842 332 2842 351 2842 381 2842 411 2842 415 2842 423 2842 498 2851 6 2851 613 3842 161	Alcohol Ketone	Characteristic penaceous odor - oils	CCD
Oil of pine needles	2834 9 2841 5		Yellowish liquid Insoluble in water	Merck 8
Oil of spearmint	2844 4 2844 498	Alcohol		
Oleamide Cis-$CH_3(CH_2)_7CH:CH(CH_2)_7$ $CONH_2$	2891 171	Aliphatic acid	Ivory colored powder	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Oleic acid $C_{18}H_{34}O_2$	3955 03 2841 115 2842 312 2842 341 2842 351 2842 411 2842 423 2844 545 2851 898 2899 337 2899 37 3941	Aliphatic acid	Colorless or nearly colorless Practically insoluble in water Acute toxicity leading to convulsive tremors, hemorrhaging, muscular paralysis	Merck 8 Merck 8
Oleic acid monoglyceride	2844 522	Aliphatic acid		
Oleostearin	2834 613	Aliphatic acid		
Oleyl alcohol $C_{18}H_{36}O$	2844 511 2844 513	Alcohol	Oily liquid Pale yellow Insoluble in water	Merck 8
Olive oil	2844 31 2844 341 2844 513 2844 523 2844 533 2834 9	Aliphatic acid	Pale yellow or greenish yellow oil	Merck 8
Olive oil soap (See:Olive oil)				
Opium powder	2834 621	Alkaloid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Optical brightener	2819 2841 3 2841 5 2842 394	Aniline	Colorless, fluorescent compounds Examples: derivatives of 4,4' diamino-stitbene - 2,2' disulfonic acid Coumarin derivatives such as 4-methyl-7-diethylamino-coumarin	CCD
Oxalic acid $HOOCCOOH \cdot 2H_2O$	2111 2819 2834 6 2841 175 2841 179 2842 398 2842 498 2899 3 2899 337 2899 37 3861 811	Aliphatic acid	Transparent colorless crystals Soluble in water Poisonous. Harmful if swallowed. Causes skin irritation. Oxygen demand	CCD;Merck 8 Heukelekian
Oxycholestrin	2844 539	Sterol		
Oxyquinolin (See:8-hydroxyquinoline				
Oxyquinoline benzoate	2834 8	Phenol Pyridine		
Oxyquinoline sulfate (See:8-hydroxyquinoline sulfate)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Oxytetracycline hydrochloride $C_{22}H_{24}N_2O_9 \cdot HCl$	2834 291		Yellow crystalline powder Odorless Very soluble in water	CCD
Ozocerite (ozokerite)	2844 513 3955 03	Aliphatic hydrocarbon	Yellow brown to black or green in color Greasy feeling Insoluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Palladium Pd	3911	Metal	Silver-white metal or black powder	Merck 8
Palmitamide $C_{16}H_{33}ON$	2891 171	Aliphatic acid		
Palmitic acid $CH_3(CH_2)_{14}COOH$	2851 6	Aliphatic acid		
Palm nut oil	2841 3 2842 465	Aliphatic acid	Yellowish, fatty oil	CCD
Palm oil (See:Palm nut oil)				
d-Panthenol or Pantothenol $HOCH_2C(CH_3)_2CHOHCONH(CH_2)_2$ CH_2OH	2834 617	Alcohol	Viscous liquid Soluble in water	CCD
Paradichlorobenzene (See:p-Dichlorobenzene)				
Paraffin (See:Paraffin wax)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Paraffin wax C_nH_{2n+2}	2621 2641 2821 2844 3 2842 341 2842 411 2842 423 2842 498 2844 341 2844 513 2844 514 2844 516 2844 523 2844 598 2851 6 2851 613 2851 863 2891 171 2911 7 3011 3952 3999 3 3999 411	Aliphatic hydrocarbon	Colorless or white translucent mass Greasy feel Insoluble in water	Merck 8
Paraformaldehyde $(CH_2O)_n$	2842 3 2842 385 2842 393 3861 811	Aldehyde	White crystalline powder Odor of formaldehyde Soluble in cold, more readily in hot water with evolution of formaldehyde Typical application may produce an irritant dermatitis. Ingestion may cause severe abdominal pain, leading to vertigo, coma and death.	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Para Red $C_{10}H_6(OH)NNC_6H_4NO_2$	3952	Synthetic coloring material		
Peat or peat moss	2841 115	Aromatic acid		
Pectin	2844 498	Carbohydrate	Coarse or fine powder, yellowish-white Practically odorless Almost completely soluble in 20 parts water	Merck 8
Pentachlorophenol C_6HCl_5O	2295 2491 2842 393 2851 137 2861	Phenol	Needle-like crystals Very pungent odor when hot Almost insoluble in water LD_{50} orally in rats: 180 mg/kg Acute human toxicity. Causes lung, liver, kidney damage, collapse with convulsion death. May be absorbed through skin. Toxicity	Merck 8 III-B
Pentaerythritol $C(CH_2OH)_4$	2893	Alcohol	White crystalline powder Soluble in water	CCD
Penton $(CH_2Cl)_2\overline{CCH_2OCH_2}$	2514 2522	Addition polymer	Natural, black or olive green	CCD
Peppermint powder	2844 498			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Perchlorethylene C_2Cl_4	2851 9 2841 115 2842 3 2842 351 2842 393 2842 398 2851 911 2899 337	Halogenated hydrocarbon	Colorless liquid Ethereal odor Soluble in about 10,000 vol water Narcotic in high concentrations Toxicity	Merck 8 III-B
Perfume (See:Essential oils)				
Permanent red 2B (See:4-amino-2-chloro toluene-5-sulfonic acid)				
Petrolatum	2834 6 2834 613 2834 8 2844 3 2844 341 2844 498 2844 513 2844 514 2844 516 2844 522 2844 523 2844 539 2844 598 2911 7 2992 3952 3955 03 2892	Aliphatic hydrocarbon		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Petrolatum liquid	2842 498 2844 522 2844 545	Aliphatic hydrocarbon	Colorless oily liquid Odorless Insoluble in water	Merck 8
Petrolatum, white	2844 514 3842			
Petroleum (and Petroleum oils)	2841 175 2842 3 2842 423 2842 498 2844 498 2893 2899 3 2911 7 2992 3069	Aliphatic hydrocarbon	Dark yellow to brown or greenish black, oily liquid Insoluble in water	Merck 8
Petroleum benzin	2841 175 2841 5 2842 311 2842 398 2842 411 2842 423 2842 496 2851 898 2891 179 2893 2899 3 2899 37 2911 3111 3952	Aliphatic hydrocarbon	Clear, colorless, nonfluorescent liquid, oily Ethereal or petroleum-like odor Insoluble in water Human toxicity Defatting action on skin. Inhalation of high concentrations causes headaches drowsiness, coma. Swallowing causes G.I. irritation, vomiting, diarrhea.	CCD Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Petroleum distillate	2295 2834 9 2842 3 2842 311 2842 321 2842 332 2842 351 2842 381 2842 398 2842 415 2851 2851 8 2899 3 2911 2911 131 2992	Aliphatic hydrocarbon	Examples: Petroleum ether Gasoline Kerosene Fuel oil Lubricating oils Paraffin wax Asphalt or tar	Gleason
Petroleum ether	2851 6 2851 613 2899 337 2952 2 3861 811	Aliphatic hydrocarbon	Toxicity: see Petroleum benzin	
Petroleum hydrocarbons (See:Petroleum distillates)				
Petroleum jelly (See:Petrolatum)				
Petroleum oils & waxes (See:Petroleum)	2834 9 3069			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Petroleum oxidates	2992			
Petroleum resins	2851 131	Aliphatic hydrocarbon		
Petroleum sulfonates	2851 8 2992	Aliphatic acid		
Petronates	2842 3	Aliphatic acid		
Phenol C_6H_5OH	2834 5 2834 613 2834 621 2844 133 2851 8 2851 863 2851 9 3111 2834 631 2834 635 2834 8 2834 9 2842 332 2842 411 2879 2891 1 2891 171 2891 179 2899 37 2911 3079 3842 161 3952	Phenol	Colorless, acicular crystals Oxygen demand Characteristic odor One gram dissolves in 15 ml water Poisonous and caustic. Ingestion of even small amounts may cause nausea, vomiting, circulatory collapse etc. Fatal poisoning may also occur through skin absorption. Toxicity Approx. lethal dose orally in man is 14 mg/kg. Toxic side effects, gastrointestinal tract, skin effects in man.	Merck 8 Mills 8 Heukelekian III-B Toxic Sub Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Phenol formaldehyde resins (See:Phenolic resins)				
Phenolic resins	2295 2299 2511 2851 135 2851 6 2893 2893 03 3079 3496 011 3496 012 3496 013	Condensation polymers	Examples: Phenol - formaldehyde resin Phenol - furfural resin	
Phenolphthalein $C_{20}H_{14}O_4$	3941	Phenol	Colorless crystals Insoluble in water	Merck 8
Phenolsulfonate $HO \cdot C_6H_4 \cdot SO_3M$	2834 5	Phenol	Yellowish liquid becoming brown on exposure to air. Soluble in water	CCD
Phenoxy resin $-[OC_6H_4C(CH_3)_2C_6H_4OCH_2CH(OH)CH_2]_n-$	3079	Condensation polymer		
2-Phenyl cyclonexanol $HOCH(CH_2)_4CH(C_6H_5)$	2842 135	Alcohol	Colorless to pale straw-colored liquid Very slightly soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
p-Phenylenediamine $C_6H_8N_2$	2844 351 3861 811	Aniline	White to slightly red crystals. Darkens on exposure to air. Soluble in 100 parts cold water May produce eczematoid contact dermatitis, bronchial asthma, vertigo, anemia, gastritis, exfoliative dermatitis, death. Toxicity	Merck 8 III-B
Phenyl mercuric acetate $C_8H_8H_gO_2$	2842 332 2842 393 2842 396 2842 442	Organometallic compound	Small lustrous prisms Soluble in about 600 parts water Has violent, corrosive effects on skin and mucous membranes. Produces severe nausea, vomiting, kidney damage, death within ten days.	Merck 8
Phenyl mercuric nitrate $C_6H_5H_gNO_3 \cdot C_6H_5H_gOH$	2834 6 2834 621 2834 8	Organometallic compound	Fine white crystals or grayish powder Very slightly soluble in water Dust or strong solution causes blistering of skin	CCD
Phenyl mercuric oleate $C_6H_5H_gOOC(CH_2)_7CH:CHC_8H_{17}$	2842 393 2891 183	Organometallic compound	White crystalline powder Insoluble in water Poisonous by swallowing or skin contact may cause skin irritation or delayed chemical burns	CCD
Phenyl mercuric propionate $C_6H_5H_gOCOCH_2CH_3$	2842 398	Organometallic compound	White to off-white wax-like free flowing powder	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Phenyl mercury acetoxy octodecanoic acid	2842 393	Organometallic compound		
Phenyl mercury oleate (See:Phenyl mercuric oleate)				
Phenylmercury saccharinate $C_{12}H_{16}HgO_6$	2842 393	Organometallic compound		
N-phenyl-B-naphthylamine $C_{10}H_7NHC_6H_5$	3069	Aniline	Light gray powder Insoluble in water	CCD
O-Phenyl phenol $C_{12}H_{10}O$	2834 611 2842 381 2842 393 2842 398 2851 2 2851 211 2851 411 2851 6 3994	Phenol	White flaky crystals Mild characteristic odor Practically insoluble in water Toxicity - see Phenol Toxicity	Merck 8 III-B
Phenyl salicylate $C_6H_4OHCOOC_6H_5$	3842 161 2842 393 2844 515	Phenol Aromatic acid	White crystalline powder Faint aromatic odor Sparingly soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Phosphoric acid H_3PO_4	2086 2087 2261 2491 2841 115 2841 171 2841 175 2841 179 2842 311 2842 332 2842 498 2844 3 2844 321 2844 451 2844 519 2899 3	Mineral acid	Clear colorless sparkling liquid Odorless Soluble in water Causes skin irritation	CCD
Phosphoric anhydride P_2O_5	3231 3461 1	Mineral acid	Does not occur as such.	
Phosphorous P	2042 2261 2821 2992 3432 3641	Non-metallic element	White phos: colorless or yellowish solid darkens on exposure to light almost insoluble in water Fumes & element are poisonous Black: crystals Red: Red to violet powder Insoluble in most solvents Non-toxic	Merck 8 CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Phosphorous penta sulfide P_2S_5	2992	Sulfur compound	Light yellow or greenish yellow crystalline masses Peculiar odor Harmful dust. Contact with water slowly liberates poisonous and flammable hydrogen sulfide	CCD
Phthalic anhydride $C_6H_4(CO)_2O$	2851 6	Aromatic acid	White crystalline needles Characteristic mild odor Slightly soluble in hot water May cause skin irritation Oxygen demand	CCD Heukelekian
Phthalocyanine pigments $(C_6H_4C_2N)_4N_4$	2641 2821 2893 2893 04	Synthetic coloring material	Color	
Pigments	2621 2842 332 2844 512 2844 522 2844 523 2844 543 2844 545 2851 135 2851 137 2851 511 2851 6 2851 8 2851 9 2891 171		Color Finely divided powder Insoluble, but wettable	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Pigments (continued)	2893 2893 08 2899 3 2899 37 3079 65 3111 3231 3641 3952 3999 3			
Pilocarpine $C_{11}H_{16}N_2O_2$	2844 321	Alkaloid	Colorless or yellow crystals or oil Soluble in water Very poisonous	CCD
Pimento oil	2834 9	Phenol	Yellow to brownish oil Agreeable, spicy, clove-like odor Darkens with age, affected by light	CCD
A-Pinene $C_{10}H_{16}$	2842 498	Aliphatic hydrocarbon	Colorless, transparent liquid Characteristic terpene odor	CCD
Piperocaine $C_{16}H_{23}NO_2 \cdot HCl$	2834 291	Pyridine	Small white crystals or powder Odorless Soluble in water	CCD
Piperonyl butoxide $C_{19}H_{30}O_5$	2834 9 2842 381	Phenol	Oily liquid LD_{50} orally rats: 11.5 g/kg May be irritating to mucous membranes Not considered highly toxic	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Plasticizers	2256 2299 2511 2842 465 2842 498 2851 6 2851 613 2851 8 2899 3 3111 3352 3431 3652 3952		Examples: Tricresyl phosphate Diethyl phthalate Diamyl phthalate Dibutyl phthalate Linseed oil Soy oil Camphor Castor oil Tributyl phosphate	
Platinum Pt	3651 3911	Metal	Silver-gray lustrous malleable ductile metal or Black powder or Spongy mass Not affected by water Inhalation of dust is irritating	Merck 8
Polyacrylate resin (See:Acrylic resin)				
Polyalkylene glycol	2841 113 2841 3 2844 3 2844 321	Alcohol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polyamides	2299 2519 2621 2891 1 2891 171 2893 3411	Aliphatic acid		
Polybutadiene $(H_2C{=}{=}CH{-}{-}CH{=}{=}CH_2)_n$	3069	Addition polymer		
Polybutenes	2851 8 2892 2992 3079 3079 65	Addition		
Polycarbonate $(-COOC_6H_5C(CH_3)_2C_6H_5O-)_n$	3079 3651 3652	Condensation polymer	Transparent Low water absorption	CCD
Polychlorinated polyphenols	2851 8	Phenol		
Polychlorotrifluoro-ethylene (See:Chlorotrifluoro-ethylene resins)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polyester compounds (See:Polyester resins)				
Polyester resin (compounds)	1925 2295 2299 2514 2522 2399 08 3079	Condensation polymer		
Polyethoxy polypropoxy ehtanol-iodine complex (See:Iodophor)				
Polyethoxy polypropoxy polyethoxy-ethanol-iodine complex (See:Iodophor)				
Polyethylene $(C_2H_4)_n$	2298 2514 2522 2591 2621 2641 2821 3079 3076 65 3411 3496 011 3941	Addition polymer	Form varies according to molecular weight from oil to wax to resinous substance Odorless Generally considered non-toxic	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polyethylene chlorinated (See:Chlorinated rubbers)				
Polyethylene-gelled mineral oil	2844 498	Addition polymer Aliphatic hydrocarbon		
Polyethylene glycol $HOCH_2(CH_2OCH_2)_xCH_2OH$	2262 2844 398 2891 1 2992 3952	Alcohol	Soft to hard white waxy solid 50 - 73% soluble in water at 20° Toxicity: see: Ethylene glycol Oxygen demand Toxicity	Merck 8 Heukelekian III-B
Polyethylene glycol ether	2844 521	Alcohol		
Polyethylene glycol monostearate	2844 512 2844 513 2844 514	Alcohol		
Polyethylene glycose	2842 3			
Polyethylene oxide	2844 498	Alcohol		
Polyisobutylene (See:Polybutenes)				
Polyisoprene	3069	Addition polymer		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polymer, natural	2342			
Polymer, synthetic	2299 2342 2842 442 3011			
Polymethacrylate (See:Acrylic)				
Polymyxin B	2834 291		The least toxic and most used of the polymyxin anti-biotics It is stable in the dry state as the acid salt	CCD
Polyol	2821 2844 31 2844 515 2844 523 2851 6	Alcchol		
Polyoxyethylene (20) cetyl ether	2844 524	Alcohol		
Polyoxyethylene 2 oleylether	2844 223	Alcohol		
Polyoxyethylene propylene glycol ethers	2992	Alcohol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polyoxyethylene sorbitan monolaurate	2072 2844 524	Alcohol Aliphatic acid	Lemon to amber colored oily liquid Faint characteristic odor Soluble in water	CCD
Polyoxyethylene sorbitan monostearate (See:Polysorbate 60)				
Polyoxylated nonyl phenol (See:Iodophor)				
Polypropylene $(C_3H_6)_n$	2298 2514 2519 2522 2821 3411 3632 3633 3652 3941	Addition polymer	White or yellow Water absorption less than 0.01%	CCD
Polysiloxanes (See:Siloxanes)				
Polysorbate 60 $C_{64}H_{126}O_{26}$	2072 2844 512 2844 515 2844 518 2844 525	Alcohol Aliphatic acid	Lemon to orange colored oily liquid or semi gel Faint characteristic odor Soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polysorbate 80	2844 519	Alcohol Aliphatic acid	Amber colored viscous liquid Very soluble in water Oxygen demand	Merck 8 Heukelekian
Polysorbate 85, 40	2844 513 2844 516	Alcohol Aliphatic acid		
Polystyrene $(C_6H_5CHCH_2)_n$	2821 2842 331 2842 423 2891 179 3652 3941 3991	Addition polymer	Water-white color Very low water absorption	CCD
Polysulfide polymers	2851 8 2879	Sulfur compounds		
Polytetrafluoroethylene $(C_2F_4)_n$	2514 2522 3461 4	Addition polymer Fluorine compound		
Polyurethane $R_1NCO+R_2OH \rightarrow R_1NHCOOR_2$	2342 2515 2851 135 3111	Condensation polymer		
Polyvinyl acetal resins	3652 2891 171	Addition polymer Aldehyde		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polyvinyl acetate $[-CH_2CH(OOCCH_3)-]_x$	2299 2621 2851 211 2851 411 2851 8 2891 171 2891 179 3952	Addition polymer	Colorless, transparent, thermoplastic solid Odorless; tasteless Insoluble in water Non toxic	CCD CCD CCD CCD
Polyvinyl alcohol (PVA) $(CH_2:CHOH)_n$	2299 2891 179 3651 3941	Addition polymer Alcohol	Dry, unplasticized PVA powders are white to cream colored Commercial PVA's have different contents of residual acetyl groups and therefore different viscosity characteristics Essentially soluble in hot and cold water Aqueous solutions are colloidal; pure aqueous solutions are neutral or faintly acid	Merck 8 Merck 8 Merck 8 Merck 8
Polyvinyl butyral resins (See:Polyvinyl acetal resins)				
Polyvinyl chloride $(-H_2CCHCl-)_n$	2256 2261 2262 2269 2514 2522 2591	Addition polymer Halogenated hydrocarbon	White powder or colorless granules or pearls which can be converted by heat and pressure into colorless sheets or films Odorless; tasteless Resistant to chemicals including moisture and air	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Polyvinyl chloride (continued)	2299 3352 3991 1		Insoluble in water	CCD
Polyvinyl fluoride $(-H_2CCHF-)_n$	3461 4	Addition polymer Fluorine compound	Low permeability to air and water	CCD
Polyvinyl formal (See:Polyvinyl acetal resins)				
Polyvinylidene chloride	2298 2299 3496 011			
Polyvinylidene fluoride $(-CH_2CF_2-)_n$	3461 4	Addition polymer Fluorine compound		
Polyvinylpyrrolidone (PVP) $(C_6H_9NO)_n$	hair preps creams, lotions 2844 363 2844 523	Addition polymer	White amorphous powder Soluble in water	CCD CCD
Polyvinyl resins	2073 3111 3496 012 3496 013			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Poppy oil	3952		Very pale golden yellow liquid Pleasant odor and taste	CCD CCD
Porcelain	2514 2522	Metal salt		
Potash K_2O	deods & antip. creams, lotions 2072 2131 2841 115 2891 3 2842 341 2842 465 2844 519 3641 3861 811	Metal salt	White, deliquescent, granular, translucent powder Soluble in water; alkaline reaction	CCD CCD
Potash sulfurated	3861 811	Metal salt	Yellowish-brown lumps Freely soluble in water, usually with a slight residue Incompatible with acids, alcohol, carbonated waters, acid salts.	Merck 8 Merck 8 Merck 8
Potassium alum (See:Aluminum potassium sulfate)				
Potassium aluminum sulfate (See:Aluminum potassium sulfate)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Potassium-o-benzyl-p-chloro-phenate	2842 332	Phenol		
Potassium bicarbonate $KHCO_3$	2072 3999 111	Metal salt	Colorless, transparent crystals or white powder Odorless; slightly alkaline, salty taste Soluble in water	CCD CCD CCD
Potassium binoxalate $KHC_2O_4 \cdot H_2O$	2844 539	Aliphatic acid	White crystals Odorless Soluble in 40 parts cold, 6 parts boiling water pH of 0.1 molar aqueous solution 2.7 Poisonous	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Potassium bitartrate $KHC_4H_4O_6$	2051 2851 863	Aliphatic acid	White crystals or powder Pleasant slightly acid taste Soluble in water	CCD CCD CCD
Potassium bromate $KBrO_3$	2051 2011-2099 2844 336	Mineral acid	White crystals or crystalline powder Soluble in water; soluble in 12.5 parts water, 2 parts boiling water In humans, ingestion may cause vomiting diarrhea, methemoglobinemia, renal injury	CCD CCD;Merck 8 Merck 8
Potassium bromide KBr	3861 811	Mineral acid	White crystalline granules or powder; somewhat hygroscopic Pungent, strong, bitter saline taste Soluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Potassium carbonate (See:Potash)				
Potassium chlorate $KClO_3$	creams, lotions 2844 4 2844 519 2899 3 2911 3941 3999 3	Mineral acid	Transparent, colorless crystals or white powder Cooling, saline taste Soluble in water; one gram dissolves slowly in 16.5 ml water, 1.8 ml boiling water Above 3.68°, decomposes into perchlorate and oxygen Incompatible with iodides, tartaric acid Poisonous	CCD;Merck 8 CCD CCD;Merck 8 Merck 8 Merck 8 CCD
Potassium chrome alum	3861 811	Metal salt		
Potassium chromium sulfate (See:Chromium potassium sulfate)				
Potassium cobaltinitrile (See:Cobalt potassium nitrite)				
Potassium dichloroisocyanurate		Hypochlorite	LD_{50} orally in rats: 1215 mg/kg;oral minimal lethal dose in rabbits: 1250 mg/kg. In humans, moderately irritating in eyes, upper respiratory tract, or on moist or abraded skin	Gleason

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Potassium dichloro-s-triazinetrione	2041 113 2842 332			
Potassium dichromate $K_2Cr_2O_7$	2841 179 2899 337 3861 811 3999 3	Mineral acid	Bright, yellowish-red transparent crystals Bitter, metallic taste Soluble in water Poisonous	CCD CCD CCD CCD
Potassium ferricyanide $K_3F3(CN)_6$	3861 811	Mineral acid	Bright red, lustrous crystals or powder Soluble in water Poisonous	CCD CCD CCD
Potassium hydrogen tartrate (See:Potassium bitartrate)				
Potassium hydroxide KOH	2072 mouthwash hair preps 2841 115 2842 331 2842 332 2842 423 2844 514 2844 522 2844 539 2899 337 3692 3949 2	Inorganic base	White, deliquescent pieces,lumps,sticks, pellets, or flakes Soluble in water;generates heat on contact with water Causes severe burns to skin and eyes	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Potassium iodide KI	mouthwash 2842 332 3861 811	Mineral acid	White crystals,granules,or powder; colorless or white crystals,white granules or powder Strong, bitter saline taste Soluble in water; one gram dissolves in 0.7 ml water, 0.5 ml boiling water Aqueous solutions become yellow in time due to oxidation, but a small amount of alkali prevents it LD i.v. in rats: 285 mg/kg Human toxicity - See:Iodine	CCD;Merck 8 CCD CCD;Merck 8 Merck 8 Merck 8 Merck 8
Potassium metabisulfite $K_2S_2O_5$	3861 811	Mineral acid	White granules or powder Sulfur dioxide odor Slightly soluble in water Oxidizes in air and moisture to sulfate	CCD CCD CCD CCD
Potassium monopersulfate (See:Potassium persulfate)				
Potassium nitrate KNO_3	2842 3 2893 08 3999 411	Mineral acid	Colorless, transparent prisms,white granular or crystalline powder Cooling, saline, pungent taste One gram dissolves in 2.8 ml water, 0.5 ml boiling water. Dissolves in water with a lowering of the temp. pH about 7 sol. In humans, large doses by mouth can cause G.I. irritation,purging,also weakness and circulatory disturbances.	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Potassium oleate $C_{18}H_{33}KO_2$	hair preps 2851 863	Aliphatic acid	Yellowish or brownish, soft mass Soluble in water	Merck 8 Merck 8
Potassium oxide K_2O	3231 3241 3431		Gray, crystalline mass Soluble in water	CCD CCD
Potassium perchlorate $KClO_4$	2899 3	Mineral acid	Colorless crystals, or white, crystalline powder Soluble in water Decomposed by concussion, organic matter and agents subject to oxidation	CCD CCD
Potassium permanganate $KMnO_4$	2841 171 3861 811	Mineral acid	Dark purple crystals having a blue metallic sheen Odorless; sweetish,astringent taste Soluble in water	CCD CCD CCD
Potassium persulfate $K_2S_2O_8$	2819 2841 553 2844 451 3861 811	Mineral acid	White crystals Soluble in water	CCD CCD
Potassium phosphate Monobasic KH_2PO_4 Tribasic K_3PO_4	2842 311 2851 8 2851 811-857	Mineral acid	Colorless crystals or white,granular powder Soluble in about 4.5 parts water	Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Potassium pyrophosphate $K_4P_2O_7 \cdot 3H_2O$	T bowl clnrs 2841 5 2842 398	Mineral acid	Colorless crystals or white powder; somewhat hygroscopic in air (deliquesces above a relative humidity of 40-45%) Soluble in water	CCD CCD
Potassium sesquisulfide (P_4S_3)	3999 3			
Potassium tetrapyrophosphate	2842 332	Mineral acid		
Potassium thiocyanate KSCN	3861 811	Thiocyanate	Colorless, deliquescent crystals When dissolved in its own weight of water, the temp drops about 30°. Aqueous solution is neutral LD_{50} orally in rats: 854 mg/kg; LD s.c. in rats: 1.0 g/kg In humans, may cause skin eruptions, psychosis	Merck 8 Merck 8 Merck 8 Merck 8
Potassium toluene sulfonate	2841 5	Sulfonated hydrocarbon		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Preservatives	toothpaste denture clnr deods & antips lotions, creams bath salts 2842 396 2844 3 2844 313 2844 512 2844 521 2844 523 2851 137 2891 183 3952		Example: p-Hydroxy benzoates	
Procaine hydrochloride (procaine) $C_6H_4NH_2COOCH_2CH_2N(C_2H_5)_2 \cdot HCl$	2834 613 3842 161	Aniline Aliphatic amine	Small, colorless crystals or white, crystalline powder Odorless; stable in air Soluble in water	CCD CCD CCD
Progesterone $C_{21}H_{30}O_2$	2844 513	Sterol	White crystalline powder Odorless; stable in air but sensitive to light Practically insoluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Propellant (See also:Fluorocarbon propellant, Freons)	2834 9 2842 381 2842 398 2842 465 2844 515 2851 381 2899 337 2911 2992			
Propellant 12 (See:Dichlorofluoro methane)				
Propellant 114 (See:Dichlorotetra fluoroethane)				
Propionic acid CH_3CH_2COOH	2834 8 2842 332	Aliphatic acid	Clear, colorless liquid Pungent odor Soluble in water	CCD CCD CCD
n-Propyl acetate $C_3H_7OOCCH_3$	2851 9 2893	Alcohol	Clear, colorless liquid Pleasant odor	CCD CCD
n-Propyl alcohol $CH_3CH_2CH_2OH$	2851 9 2851 911 2893 2899 337	Alcohol	Clear, colorless liquid Odor similar to ethyl alcohol Soluble in water Oxygen demand	CCD CCD CCD Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Propylene dichloride $CH_3CHClCH_2Cl$	2851 9 2851 911	Halogenated hydrocarbon	Colorless, stable liquid Chloroform-like odor Insoluble in water; solubility in water 0.26% by weight	CCD CCD CCD
Propylene glycol $CH_3CHOHCH_2OH$	2087 2834 9 2841 5 2842 135 2842 311 2842 332 2842 381 2844 156 2844 223 2844 3 2844 313 2844 398 2844 411 2844 471 2844 511 2844 512 2844 513 2844 515 2844 519 2844 524 2844 525 2844 545 2844 561 2899 337 2844 523	Alcohol	Hygroscopic, viscous colorless liquid Slightly acrid taste and odor Miscible with water LD_{50} orally in rats: 30 g/kg Toxicity Oxygen demand	Merck 8;CCD Merck 8;CCD Merck 8 Merck 8 III-B Lamb

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
1,2-Propylene glycol $CH_3CHOHCH_2OH$	air clnrs	Alcohol	Colorless, viscous, stable, hygroscopic liquid Slight odor; very slight acrid taste Miscible with water	CCD CCD CCD
Propylene glycol monoesters	2844 521 2844 545 2844 541	Alcohol Aliphatic acid	Example: Propylene glycol monostearate: Slightly more toxic than propylene glycol in animals. Large doses produce central nervous depression and kidney tubular injury, as does ethylene glycol	Gleason Gleason
Propylene glycol monoethyl ether	2893	Alcohol		
Propylene glycol monostearate (See:Propylene glycol monoesters)				
Propylene glycol ricinoleate	2844 515	Alcohol Aliphatic acid		
Propylene oxide C_3H_6O	2842 442	Alcohol		
Propyl-p-hydroxybenzoate $C_{10}H_{12}O_3$	toothpaste foundns (cos) creams	Phenol Aromatic acid	White crystals Soluble in 2000 parts water	Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Propyl-p-hydroxybenzoate (continued)	baby cream baby lot. creams, lotions 2842 135 2844 511 2844 514 2844 519			
Propyl paraben (See:Propyl-p-hydroxy-benzoate)				
Protein (Protein solution)	2042 hair preps 2641 7999 119		Examples of simple proteins: Albumins: soluble in water Globulins: insoluble in water Prolamines (gliadins): insoluble in water Histones: soluble in water Pretamines: soluble in water	 Hackh's Hackh's Hackh's Hackh's Hackh's
Prussian blue (See:Ferric ferrocyanide)				
Pumice	2841 553 2842 398 2891 179 3999 3	Metal oxide	Glassy texture Insoluble in water Not attacked by acids	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Pyrethrins I) $C_{21}H_{28}O_3$ II) $C_{22}H_{28}O_5$	insecticides pesticide 2834 9 2842 381	Aliphatic acid Ketone	Pyrethrin I: Viscous liquid Practically insoluble in water LD_{50} orally in rats:1.2 g/kg Pyrethrin II: Viscous liquid Practically insoluble in water LD_{50} orally in rats: 1.2 g/kg	Merck 8
Pyro (See:Tetrasodium pyrophosphate)				
Pyrocatechol $C_6H_6O_2$	2844 351	Phenol	Monoclinic tablets, prisms from toluene; discolors in air and light Soluble in 2.3 parts water; its aqueous solutions soon turn brown LD_{50} orally in rats: 3.89 g/kg In humans, can cause eczematous dermatitis	Merck 8 Merck 8 Merck 8 Merck 8
Pyrogallol $C_6H_6O_3$	hair preps 2844 351	Phenol	White crystals Odorless One gram dissolves in 1.7 ml water; aqueous solution darkens on exposure to air,quite rapidly when alkaline MLD s.c. in rats: 700 mg/kg; MLD orally in dogs; 25 mg/kg	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Pyrogallol (continued)			In humans, ingestion may cause severe G.I. irritation, renal and hepatic damage, hemolysis, convulsions, circulatory collapse, death. Poisoning and death have occurred from percutaneous absorption. Oxygen demand	 Heukelekian
Pyroligneous acid	2842 332	Aliphatic acid Aldehyde	Crude yellow to red liquid. Miscible with water	CCD CCD
Pyroxglin (cellulose nitrate)			Light yellow matted filaments pptd from solution by water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Quaternary ammonium salts	2841 171 2842 3 2842 331 2842 332 2842 393 2842 398 2842 415 2992 3994			
Quebracho	2841 179	Alkaloid		
Quinine $C_{20}H_{24}N_2O_2$	2844 321	Alkaloid	Has blue florescence, white amorphous powder Odorless One gram dissolves in 1900 ml water Trihydrate has LD orally in rabbits 800 mg/kg	Merck 8;CCD CCD Merck 8 Merck 8
Quinoline salts C_9H_7N	2844 515	Pyridine	Liquid Penetrating odor Difficulty soluble in cold water. Absorbs as much as 22% water Darkens on storage Oxygen demand	Merck 8 Heukelekian
Quinoms $C_6H_4O_2$	2879	Phenol	Yellow, monoclinic prisms Penetrating odor resembling that of chlorine Slightly soluble in water Irritating vapor. LD_{50} orally in rats 130 mg/kg.	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Quinoms (continued)			May cause dermatitis to nicrotic changes in skin. Vapor can cause serious eye disturbances.	

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Rayon (See:Fibers,synthetic)				
R-11 $C_{13}H_{16}O_2$		Aldehyde	Liquid Practically insoluble in water LD_{50} orally in rats 2.5 g/kg. Moderately low human toxicity.	Merck 8
Resins natural	2087 2842 3 2842 341 2842 423 2842 465 2844 223 2851 211 2851 3 2851 411 2851 8 2851 9 2861 2891 171 2893 08 2899 3 2899 37		Clear or translucent yellow or brown materials Insoluble in water	CCD
Resins, synthetic	2295 2511 2821 2842 415 2842 423 2842 498 2844 531			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Resins, synthetic (continued)	2851 137 2851 121 2851 124 2851 135 2851 3 2851 5 2851 511 2851 6 2851 7 2851 8 2851 9 2891 173 2893 2893 08 2899 3 2899 37 3652 3952 3999 3			
Reso P-150	2841 171			
Resorcinol $C_6H_6O_2$	2834 617 2834 621 2844 3 2844 321 2844 351	Phenol	White needle-like crystals. Become pink on exposure to light and air. One gram dissolves in 0.9 ml water MLD s.c. in rats 450 mg/kg Irritating to skin, mucous membranes. Absorption can cause serious illness and death. Oxygen demand	Merck 8 Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Resorcinal acetate $C_8H_8O_3$	2844 321	Phenol	Golden-yellow thick syrupy, oily liquid Insoluble in water Faint characteristic odor	Merck 8 Merck 8 CCD
Resorcinal formaldehyde resin	2891 171	Addition polymer		
Rhodamine B dye $C_{28}H_{31}ClN_2O_3$	2842 498 3941	Synthetic coloring material	Green crystals or reddish-violet powder Very soluble in water	CCD
Rosewater	2844 519			
Rosin	2621 2621 100 2649 1 2842 465 2842 498 2844 598 2851 6 2851 613 2851 8 2891 171 2891 173 2893 08 2899 37 3999 3	Rosin acid	Angular translucent amber-colored fragments Insoluble in water	CCD
Rotenone $C_{23}H_{22}O_6$	2834 9		White crystals Odorless Insoluble in water Toxic to insects and fish	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Rubber, natural $(C_5H_8)_x$	2515 2851 6 3069 3069 8 3842 161	Addition polymer	Light cream to dark amber, elastic material	CCD
Rubber, synthetic	2299 2515 2842 341 2851 6 2851 8 2891 173 3069 8 3069 864 3411 3842 161 3943	Addition polymer		
Rum, Jamaica	2844 156	Alcohol		
Rust retardant	2841 6 2851 611 2851 8 2851 613 2899 336 2899 337 2911 1 2992			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Saccharin $C_7H_5NO_3S$	2086 tooth-paste tooth-powder dent-frices mouthwash 2844 111 2844 431	Aromatic acid	Monoclinic crystals In dilute aq. solution it is 500 times as sweet as sugar; sweet taste is still detectable in 1:100,000 dilution One gram dissolves in 290 ml water, 25 ml boiling water. Acid reaction. pH of 0.35% aq. soln 2.0 Hydrolysis products of saccharin are o-sulfamoyl benzoic acid (alkaline hydrolysis) and (ammonium o-sulfo)-benzoic acid (acid hydrolysis)	Merck 8 Merck 8 Merck 8 Merck 8
Saccharin, soluble (See:Sodium saccharin)				
Saccharose monopalmi-tate	tooth-paste 2844 411	Carbohydrate Aliphatic acid		
Salicylate(s)	Barrier creams creams, lotions 2834 6 2834 8 2844 514			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Salicylic acid $C_6H_4(OH)COOH$	2834 5 2834 8 2834 9 2842 332 2842 351 2842 393 3842 161 2844 598 2834 617 2844 3 2844 321	Aromatic acid Phenol	Acicular crystals or crystalline powder; gradually discolors in sunlight; colored reddish even by merest traces of ferric salts One gram dissolves in 460 ml water, 15 ml boiling water LD orally in rabbits: 1.3 g/kg Oxygen demand	Merck 8 Merck 8 Merck 8 Heukelekian
Salicylanilide $C_{13}H_{11}NO_2$	2842 393 2841 3	Aniline Aromatic acid Phenol	Odorless leaflets Slightly soluble in water In humans, concentrated form may cause irritation of skin, mucous membranes	Merck 8 Merck 8 Merck 8
Salol (See:Phenyl salicylate)				
Sapphire	3651	Metal oxide		
Saran (See:Polyvinylidene chloride)				
Sassafras	2842 498	Phenol Ketone	Yellowish or reddish yellow volatile liquid oil Pungent, aromatic odor; warm, aromatic taste	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sesame oil	hair preps pesticides bath salts & oils 2844 513 2844 515	Aliphatic acid	Pale yellow oil Almost odorless; bland taste Insoluble in water	Merck 8
Shark liver oil	2834 621	Aliphatic acid	Yellow to red-brown liquid Characteristic odor, not disagreeable if oil is refined	CCD CCD
Shellac	foot preps 2842 415 2842 442 2842 498 2844 363 2893 2899 3 3652 3941 3952		Brittle, yellowish transparent sheets, crushed pieces, or powder; Shellac of commerce is orange Insoluble in water In humans, may cause skin irritation, sensitization	CCD;Merck 8
Sienna, raw (See also: iron oxide reds)	3952	Metal salt	Yellowish clay,colored because of presence of oxides of iron and manganese	CCD
Silica (See:Silicon dioxide)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Silicates	2851 6 2851 631-637 2851 8 2851 811-857	Metal salt		
Siliceous earth (See:Diatomaceous earth)				
Silicon	2842 395 2842 398 2842 498 2844 363 2844 514 3432 3641 3651	Metal		
Silicon dioxide SiO_2	cleaners hair preps Rodenticide 2011-2099 2821 2841 5 2842 3 2842 311 2842 312 2842 341 2842 411 2842 498	Metal oxide	Colorless, transparent crystals, or white powder Tasteless Insoluble in water In humans, prolonged inhalation of the dust can cause Fibrosis of lung (silicosis), which may lead to pulmonary hypertension and cor pulmonale.	CCD;Merck 8 CCD CCD;Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Silicon dioxide (continued)	2844 451 2851 8 2851 811-857 2992 3231 3241 3269 3274 3292 3431 3461 1 3641 3952 3999 3			
Silicones(includes silicone oils and silicon fluids)	lotions, creams baby preps 2834 6 2842 3 2842 311 2842 398 2842 411 2842 415 2842 423 2842 442 2842 444 2844 363 2844 512 2851 811-857	Addition polymer	Low surface tension Extreme water repellency	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Silicones (continued)	2891 171 2891 179 2911 7 2992 3941 3999 117			
Silk (See:Fibers, natural)				
Siloxanes	2011-2099 2841 8 2992	Addition polymers		
Silver Ag	3461 3651 3861 6 3911	Metal	White metal Not attacked by water or atmospheric oxygen Inhalation of dust should be avoided	Merck 8 Merck 8 Merck 8
Silver nitrate $AgNO_3$	2834 8 2842 498 2844 351 3861 811 3941	Metal salt	Colorless,transparent,large crystals or white,small crystals Odorless Stable and not darkened by light in pure air,but darkens in presence of organic matter (and by H_2S even in the dark) One gram dissolves in 0.4 ml water,0.1 ml boiling water Aqueous solutions are neutral to litmus; pH about 6	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Silver nitrate (continued)			Incompatible with alkalies, antimony salts, arsenites, bromides, carbonates, chlorides, iodides, thiocyanates, hypophosphites, ferrous salts, morphine salts, oils, creosotes, phosphates, tannic acid, tartrates, vegetable decoctions, and extracts. In humans, caustic and irritating to skin, mucous membranes; swallowing can cause severe gastroenteritis that may end fatally. See also: Silver	Merck 8 Merck 8
Silver sulfide(s) Ag_2S	3651 3961	Sulfur compound Metal salt	Grayish-black, heavy powder Practically insoluble in water In humans, practically inert toxicologically because of low solubility	Merck 8 Merck 8 Merck 8
Slate (See also: Mica)	2891 179 3652	Metal salt	Usually gray to black, sometimes green, yellow, brown, or red	CCD
Slimacides	2621			
Soap	deod & antipers cleaners toilet bowl clnrs 2279 2834 9 2841 311 2841 5 2842 332	Aliphatic acid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Soap (continued)	2842 341 2842 351 2842 398 2842 442 2842 465 2842 498 2844 133 2844 3 2844 313 2844 4 2844 431 2851 9 2899 3 2992			
Soaps, metallic	2841 3 2842 423 2842 498 2851 128 2851 613 2911 7 2992		Insoluble	CCD
Soda ash Na_2CO_3	denture cleaner lotions, creams toilet bowl clnr 2842 331 2842 332 2842 341	Inorganic base	Grayish-white powder or lumps Soluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium acid fluoride (See:Sodium bifluoride)				
Sodium acid oxalate	2842 331	Aliphatic acid		
Sodium acid phosphate (See:Sodium phosphate, monobasic)				
Sodium acid pyrophosphate (See:Tetra sodium pyrophosphate, acid)				
Sodium acid sulfate (See:Sodium bisulfate)				
Sodium alginate $(C_6H_7O_6Na)_n$	liq.dentifrices tooth powders creams (hand) baby lotions 2844 133 2844 363 2844 4 2844 431 2844 512 2844 519	Carbohydrate	Colorless or slightly yellow solid; cream-colored powder Slight characteristic smell and taste Soluble in water, forming a viscous, colloidal solution Oxygen demand	CCD;Merck 8 CCD Merck 8 Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium alkyl aryl sulfonate	mouthwash toilet bowl cln Bath salts 2819 2841 113 2841 115 2841 175 2841 3 2841 553 2842 3 2842 331 2842 332 2842 411 2842 423 2842 465 2851 863 2899 3	Aromatic acid		
Sodium aluminate $Na_2Al_2O_4$ or $NaAlO_2$	2621	Mineral acid	White powder Soluble in water Aqueous solution strongly alkaline	CCD CCD CCD
Sodium aluminum phosphate $NaAl_3H_{14}(PO_4)_8 \cdot 4H_2O$ or $Na_3Al_2H_{15}(PO_4)_8$	2051	Mineral acid	White powder Odorless Insoluble in water	CCD CCD CCD
Sodium aluminum silicate	2011-2099	Mineral acid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium aluminum sulfate (See:Aluminum sodium sulfate)				
Sodium arsenate $Na_3AsO_4 \cdot 12H_2O$	2491	Mineral acid	Colorless crystals Soluble in water Toxicity	Hackh's Hackh's III-B
Sodium benzoate $C_7H_5NaO_2$	2086 tooth-paste mouthwash 2844 4 2844 523	Aromatic acid	White granules or crystalline powder Odorless;sweetish,astringent taste One gram dissolves in 1.8 ml water, 1.4 ml boiling water LD_{50} orally in rats: 4.1 g/kg In humans, oral administration may cause nausea.Death may occur in an occasional sensitive individual. Incompatible with acids,Ferric salts Oxygen demand	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Heukelekian
Sodium bicarbonate $NaHCO_3$	tooth-powder foot preps baby preps bath salts 2051 2072 2841 171 2841 175 2842 341 2842 351 2844 4	Metal salt	White, crystalline powder or granules Soluble in 10 parts water at 25°,in 12 parts water at about 18° In aqueous solution begins to break up into carbon dioxide and sodium carbonate In humans, may cause alkalosis under certain conditions (irritability, neuromuscular hyperexcitability,tetany	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium bicarbonate (continued)	2086 2844 471 2844 561 2891 1 2891 19 2899 3 3941 3999 111 3999 117 3999 119 2834 5			
Sodium bifluoride $NaHF_2$	3111	Fluorine compound	White, crystalline powder Soluble in water Poisonous	CCD CCD CCD
Sodium binoxalate		Aliphatic acid	Soluble salts of oxalic acid have essentially the same toxicity as the acid. (See:oxalic acid)	Gleason
Sodium bisulfate $NaHSO_4$	toilet bowl clnrs. 2841 115 2842 331	Mineral acid	Fused $NaHSO_4$, hygroscopic pieces: Soluble in 2 parts water,1 part boiling water Decomposed by alcohol into sodium sulfate and free sulfuric acid	Merck 8 Merck 8 Merck 8
Sodium bisulfite $NaHSO_3$	2819 2899 337 3861 811 3941	Mineral acid	White crystals or crystalline powder Slight sulfurous odor;disagreeable taste Soluble in water	CCD CCD CCD
Sodium bithionoleate $C_{12}H_4Cl_4Na_2O_2S$	2842 332	Phenol Sulfur compound	Solid Soluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium borate $Na_2B_4O_7 \cdot 10H_2O$	mouthwash foot preps creams, lotions 2491 2842 332 2844 498 2844 514 2844 519 2844 539 3941	Mineral acid	White crystals or powder Odorless Soluble in water Human toxicity: Ingestion of 5 to 10g by young children can cause severe vomiting, diarrhea, shock and death.	CCD CCD CCD Merck 8
Sodium bromate $NaBrO_3$	hair prep 2844 336	Mineral acid	Colorless crystals, white granules or powder Odorless Soluble in 2.5 parts water, 1.1 parts boiling water. Aqueous solution is neutral. MLD orally in rabbits: 580 mg/kg Human toxicity - (See:Potassium bromate) Keep from contact with organic matter	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Sodium caprylate $CH_3CH_2(CH_2)_4CH_2COONa$	2834 5 2834 8	Aliphatic acid	Cream-colored granules Freely soluble in water	CCD CCD
Sodium carbonate	hair preps t.bowl clnrs 2072 2819	Inorganic base	e.g. Sodium carbonate, monohydrate Sodium sesquicarbonate Sodium bicarbonate Soda ash q.v.	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium carbonate (continued)	2834 9 2841 113 2841 115 2841 171 2841 179 2841 3 2844 451 2844 539 2899 337 3111 2841 553 2842 331 2842 332 2842 341 2842 351 2842 398 3941			
Sodium carbonate, monohydrate $Na_2CO_3 \cdot H_2O$		Inorganic base	White, small crystals or crystalline powder Odorless; alkaline taste Soluble in water	CCD CCD CCD
Sodium carbonate peroperoxide	2844 451			
Sodium carboxymethyl cellulose $RnOCH_2COONa$	tooth-paste tooth-powder creams, lotions	Carbohydrate	Colorless hygroscopic powder or granules Odorless; tasteless Readily dispersible in hot or cold water pH (1% solution) 6.5-8.0; stable in pH range 2-10.	CCD;Merck 8 CCD CCD;Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium carboxymethyl cellulose (continued)	2621 2647 2834 9 2841 5 2842 394 2842 396 2842 423 2842 498 2844 4 2844 411 2844 498		Viscosity (1% solution) 5-2000 cp, depending upon the number of hydroxyl radicals of the cellulose that have been etherified. In water solution it is a colloidal electrolyte which reacts with heavy metal salts to give films insoluble in water, colorless, transparent, relatively tough, and unaffected by common organic solvents, oils, fats, and greases Non toxic Oxygen demand	CCD; Merck 8 CCD CCD Heukelekian
Sodium chloride NaCl	tooth-powder mouthwash lotions, creams foot preps hair preps t.bowl clnrs. bath salts & oils 2051 2087 2841 115 2279 2819 2841 171 2841 175	Metal salt Mineral acid	Cubic, white crystals, granules, or powder; colorless and transparent or translucent when in large crystals One gram dissolves in 2.8 ml water at 25°, in 2.6 ml boiling water MLD i.v. in rats: 2.5 g/kg In humans, not generally considered poisonous. Accidental substitution of sodium chloride for lactose in baby formulas has caused fatal poisoning Toxicity	Merck 8 Merck 8 Merck 8 Merck 8 III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium chloride (continued)	2841 3 2842 3 2842 331 2842 332 2842 351 2842 396 2844 451 2844 561 2844 471 2891 179 2899 3 2899 336 3861 811 3941 3111			
Sodium chloroacetate $ClCH_2COONa$	2647	Aliphatic acid	White nonhygroscopic powder Odorless Soluble in water	CCD CCD CCD
Sodium chromate $Na_2CrO_4 \cdot 10H_2O$	2491 2899 337	Mineral acid	Yellow, translucent, efflorescent crystals Soluble in water	CCD CCD
Sodium cyanide NaCn	pesticide 3861 811	Cyanide	White granules or fused pieces Odorless when perfectly dry; somewhat deliquescent in damp air and emits slight odor of HCN Freely soluble in water Aqueous solution is strongly alkaline and rapidly decomposes MLD s.c. in rabbits: 2.2 mg/kg	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium cyanide (continued)			In humans, like hydrogen cyanide: high concentration produces tachypnea (causing increased intake of cyanide); then dyspnea, paralysis, unconsciousness convulsions, and respiratory arrest. Headache, vertigo, nausea and vomiting may may occur with lesser concentrations. Chronic exposure over long periods may cause fatigue, weakness. Exposure to 150 ppm for 0.5 to 1 hr. may endanger life. Death may result from a few min. exposure to 300 ppm. Average fatal dose: 50 to 60 mg.	Merck 8
Sodium cyclamate $C_6H_{12}O_8NSNa$	2844 4 2844 471	Aliphatic amine	White crystals Sweet taste Soluble in water	Hackh's Hackh's Hackh's
Sodium diacetate Anhydrous=$CH_3COONa \cdot x (CH_3COOH)$ Technical=$CH_3COONa \cdot x (CH_3COOH) \cdot y H_2O$	2051	Aliphatic acid	White crystals Acetic acid odor Soluble in water	CCD CCD CCD
Sodium dichromate $Na_2Cr_2O_7 \cdot 2H_2O$	2899 337 3999 113 3999 118	Mineral acid	Red or orange-red deliquescent crystals Very soluble in water May cause rash or external ulcers	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium dioctyl sulfo-succinate (See:Dioctyl sodium sulfosuccinate)				
Sodium dodecylbenzene sulfonate $C_{12}H_{25}C_6H_4SO_3Na$	2842 332 2842 411	Aromatic acid	White to light yellow flakes,granules, or powder LD_{50} in mice: orally 2 g/kg; i.v. 105 mg/kg In humans, may cause skin irritation; vomiting, if swallowed Most widely used surfactant in synthetic detergents	CCD Merck 8 Merck 8 CCD
Sodium ferrocyanide $Na_4Fe(CN)_6 \cdot 10H_2O$	2011-2099 3941	Mineral acid	Yellow,semitransparent crystals Soluble in water	Hackh's Hackh's
Sodium fluoride NaF	2491 2841 175 2841 179 2844 4 2891 1 tooth-paste pesticide rodenticide	Fluoride	Clear,lustrous crystals, or white powder or balls.Sodium fluoride sold as household insecticide must be tinted Nile Blue Soluble in water;Solubility in water at 15° = 4.0 g/100 ml, at 25° = 4.3 g/100 ml, at 100° = 5.0 g/100 ml Aqueous solutions have an alkaline reaction caused by partial hydrolysis May be fatal if swallowed; poisonous. In humans,severe symptoms from ingestion of 0.25 to 0.45 g. Death from 4 g. Sublethal:nausea and vomiting,weakness	CCD Merck 8 CCD;Merck 8 Merck 8 CCD;Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium fluoride (continued)			etc. Lethal: muscular weakness, collapse, death. Chronic: melting of tooth enamel, osteosclerosis	
			Toxicity	III-B
Sodium fluorosilicate Na_2SiF_6	2891 1	Fluorine compound	White crystals; white,granular,free-flowing, amorphous powder	Hackh's;CCD
			Slightly soluble in water;very slightly soluble in cold water, more soluble in hot water	Hackh's;CCD
			Harmful is swallowed.	CCD
Sodium hexafluorosilicate Na_2SiF_6	2842 393	Fluorine compound	White,granular powder	Merck 8
			Soluble in 150 parts cold water, 40 parts boiling water. The solution in cold water is neutral.	Merck 8
			LD_{50} orally in rats: 125 mg/kg.	Merck 8
			Human toxicity - See:Sodium fluoride	Merck 8
Sodium hexametaphosphate	bath salt 2842 396 2844 3 2844 31 2844 561	Mineral acid		
Sodium hexametaphosphate detergents $(NaPO_3)_6$	2844 31	Mineral acid	Powder,flakes,broken particles	Merck 8
			Soluble in water	Merck 8
			Possess dispersing and deflocculating properties,coagulate albumins, and inhibit the crystallization of slightly soluble compounds,such as calcium carbonate and calcium sulfate.	Merck 8
			LD I.v. in dogs: 140 mg/kg	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium hydroxide NaOH	cleaners hair preps t.bowl cleaners 2072 2262 2647 2819 2841 115 2841 171 2841 175 2841 553 2842 311 2842 312 2842 331 2842 332 2842 465 2842 351 2844 545 2851 135 2851 3 2851 365, 367 2851 931 2899 336 2899 337 2899 37 3861 811 3999 113 3999 118	Inorganic base	Fused solid with crystalline fracture; sold as lumps,sticks,pellets,chips,etc. One gram dissolves in 0.9 ml water, 0.3 ml boiling water Sodium hydroxide solutions hydrolyze fats and form soaps;they precipitate alkaloids (bases) and most metals (as hydroxides) from water solutions of their salts Rapidly absorbs carbon dioxide and water from air Very corrosive (caustic) to animal and vegetable tissue and to aluminum metal in the presence of moisture LD orally in rabbits: 500 mg/kg (10% solution) In humans, corrosive to all tissues. Ingestion causes vomiting,prostration, collapse. Inhalation of dust or concentrated mist may cause damage to respiratory tract	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium hypochlorite NaOCl	detergent 2819 2841 113 2841 553 2842 332 2842 398 2899 3	Hypochlorite	Unstable in air unless mixed with sodium hydroxide;usually stored and used in solution,having a pale greenish color Disagreeable, sweetish odor Soluble in cold water;decomposed by hot water	CCD CCD CCD
Sodium N-lauroyl sarcosinate (See also:Gardol) $C_{15}H_{28}NNaO_3$	tooth-paste 2844 4	Aliphatic acid Aliphatic amine	Colorless aqueous solution	CCD
Sodium lauryl sarcoside	tooth-powder 2844 431			
Sodium n-lauryl sucroside				
Sodium lauryl sulfate $NaC_{12}H_{25}SO_4$	2842 341 2842 351 2844 111 2844 31 2844 313 2844 336 2844 4 2844 411 2844 431 2844 513 2844 525 2844 598 2844 561 2834 9	Alcohol	Small white or light yellow crystals; white or cream-colored crystals,flakes or powder Slight characteristic odor;faint odor of fatty substances Soluble in water;one gram dissolves in 10 ml water,giving an opalescent solution Lowers the surface tension of aqueous solutions	CCD;Merck 8 CCD;Merck 8 CCD;Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium lauryl sulfo-acetate (See:"Lathonal" LAL)		Alcohol		
Sodium lignosulfate	2841 175	Sulfonated hydrocarbon	Tan, free-flowing spray-dried powder	CCD
Sodium mercaptobenzo-thiazole $C_7H_4NS_2Na$	2899 336	Sulfur compound	50% aqueous solution of Na mercaptoben-zothiazole; light amber liquid	CCD
Sodium metaborate $NaBO_2$	3861 811	Mineral acid	White lumps Soluble in water	CCD CCD
Sodium metaphosphate $(NaPO_3)_n$	tooth-paste	Mineral acid	Colorless, glassy, transparent hygro-scopic sticks, or white flakes or powder Soluble in water with alkaline reaction MLD i.v. in rabbits: 130 mg/kg	Merck 8 Merck 8 Merck 8
Sodium metaphosphate, insoluble	tooth-powder dentifrices 2844 431	Mineral acid		
Sodium metasilicate Na_2SiO_3	detergent 2841 13 2841 115 2841 175 2842 3 2842 331 2842 423 2842 465	Mineral acid Inorganic base	Usually obtained as a glass Soluble in cold water, hydrolyzed by hot water	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium monoxide Na_2O	3231 3431 3631		White powder Converted to sodium hydroxide by water	CCD CCD
Sodium nitrate $NaNO_3$	2841 5 2842 2 2842 331 2842 332 2891 1 2899 337	Mineral acid	Colorless, transparent crystals Odorless; saline,slightly bitter taste Soluble in water	CCD CCD CCD
Sodium nitrite $NaNO_2$	2842 332 2899 337 2992	Nitrite	Slightly yellowish or white crystals, pellets,sticks,or powder Oxidizes on exposure to air Soluble in water	CCD CCD CCD
Sodium orthosilicate $Na_2SiO_3 \cdot 2NaOH$	2842 312 2899 337	Mineral acid Inorganic base	Dustless white, flaked product Soluble in water	CCD CCD
Sodium pentachlorophenate C_6Cl_5ONa	2842 397 2891 1 2891 171 2891 173 2891 179 3069 8		White or tan powder Soluble in water Avoid skin contact and inhalation of dust	CCD CCD CCD
Sodium perborate $NaBO_3 \cdot 4H_2O$	2819 2841 3 2841 553 2842 3 2842 423 2844 336	Mineral acid	White crystals or powder Odorless; salty taste Stable in cool,dry air but decomposes with evolution of oxygen in warm or moist air Moderately soluble in water (with	CCD;Merck 8 CCD;Merck 8 CCD;Merck 8 CCD;Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium perborate (continued)	2844 451 lotions, cream		decomposition); soluble in about 40 parts water. The solution being alkaline and decomposing with the liberation of H_2O_2, and then oxygen	
			In humans, daily use as a mouthwash may cause chronic glossitis	Merck 8
Sodium perchlorate $NaClO_4$	2841 553	Mineral acid	White deliquescent crystals	CCD
			Soluble in water	CCD
Sodium peroxide Na_2O_2	2844 451	Inorganic base	Yellowish-white, granular powder	Merck 8
			Absorbs water and CO_2 from air	Merck 8
			Freely soluble in water, forming sodium hydroxide and hydrogen peroxide, the latter quickly decomposing into oxygen and water	Merck 8
			In humans, irritant and corrosive. See: Sodium hydroxide.	Merck 8
Sodium-o-phenylphenate $C_6H_4(C_6H_5)ONa \cdot 4H_2O$	2842 397 2891 1 2891 171 2891 173 2891 179 3069 8	Phenol	Practically white flakes	CCD
			Soluble in water; pH of saturated solution in water 12.0-13.5	CCD
Sodium phosphate	2491 toothpaste detergents 2842 2	Mineral acid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium phosphate (continued)	2842 398 2899 3 2941 3			
Sodium phsophate, monobasic a) NaH_2PO_4 b) $NaH_2PO_4 \cdot H_2O$	2051 2841 175	Mineral acid	White crystalline powder; slightly hygroscopic Odorless Very soluble in water; has acid reaction	CCD Merck 8 CCD
Sodium phosphate, tribasic $Na_3PO_4 \cdot 12H_2O$	clnrs t.bowl clnrs 2841 113 2841 115 2841 175 2841 179 2841 3 2841 5 2841 553 2842 3 2842 332 2842 341 2842 351 2842 396 2842 423 2842 442 2842 498 2844 561 2844 31 2844 451 2844 539	Mineral acid Inorganic base	Colorless or white crystals Soluble in 3.5 parts water, 1 part boiling water. Aqueous solution is strongly alkaline pH of o.1% solution = 11.5; of 0.5% = 11.7; of 1.0% solution = 11.9	Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium phosphate, tribasic (continued)	2851 863 2891 1 3069 8 3941			
Sodium polyphosphate $Na_{n+2}P_nO_{3n+1}$	2842 311 2842 423	Mineral acid		
Sodium polysulfide Na_2S_x	3111	Sulfur compound	Yellow-brown granular free-flowing material	CCD
Sodium propionate CH_3CH_2COONa	2051 2834 8	Aliphatic acid	Transparent crystals or granules Almost odorless Deliquescent in moist air Very soluble in water	CCD CCD CCD CCD
Sodium pyrophosphate (See:Tetra sodium pyrophosphate)				
Sodium pyrophosphate, acid (See:Tetra sodium pyrophosphate, acid)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium silicate solution	2819 lotion, creams detergs 2841 113 2841 3 2841 311 2841 5 2842 332 2844 514 2891 179 3941	Inorganic base	Solutions of sodium silicate are strongly alkaline and are readily decomposed by acids with separation of silicic acid	Merck 8
Sodium silicofluoride (See:Sodium hexafluorosilicate)	2842 393	Fluorine compound		
Sodium soap (See:Sodium stearate)				
Sodium stearate $NaOOCC_{17}H_{35}$	2841 553 2842 135 2844 223 2844 232 2844 31 2844 313 2844 526	Aliphatic acid	White powder; soapy feel Fatty odor; slight tallow-like odor Slowly soluble in cold water;(freely) soluble in hot water Aqueous solution is strongly alkaline due to hydrolysis	CCD;Merck 8 CCD;Merck 8 CCD;Merck 8 Merck 8
Sodium sulamyd (See:Sodium sulfacetamide)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium sulfacetamide $NH_2C_6H_4SO_2NNaCOOH_3 \cdot H_2O$	2834 617		White crystalline powder Odorless; bitter Soluble in water; aqueous solutions must be refrigerated and protected from light	CCD CCD CCD
Sodium sulfate (See: Sodium sulfate, anhydrous)				
Sodium sulfate, anhydrous Na_2SO_4	2086 2279 2819 2834 5 2841 113 2841 3 2841 311 2841 5 2841 551 2842 311 2842 312 2842 351 2842 398 2842 411 2899 3 2844 451 3861 811 3941 2844 561 hair preps bath salts detergents	Mineral acid	Powder or crystals Soluble in about 3.6 parts water; at 33° it reaches its max solubility: 1 in 2; above this temp the solubility gradually decreases and at 100° requires 2.4 parts water	Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium saccharin $C_7H_4NNaO_3S \cdot 2H_2O$	liq. dentifrices tooth-paste mouthwash creams, lotions 2844 4 2844 411 2844 471	Aromatic acid	White crystals or crystalline powder Odorless or with a faint aromatic odor Effloresces in dry air Indilute aqueous solutions it is 300-500 times as sweet as sugar Very soluble in water;one gram dissolves in 1.2 ml water;aqueous solutions are neutral or alkaline to litmus, but not alkaline to phenolphthalein	CCD CCD Merck 8 CCD;Merck 8 CCD;Merck 8
Sodium salicylate $C_7H_5NaO_3$	hair preps creams, lotions 2844 133 3941	Aromatic acid Phenol	White crystals,scales or powder; becomes pink on long exposure to light Odorless One gram dissolves in 0.9 ml water; aqueous solution is slightly acid, pH 5-6 Incompatible with Ferric salts, lime water,spirit nitrous ether,mineral acids,iodine,lead acetate, silver nitrate,sodium phosphate in powder	Merck 8
Sodium sesquicarbonate $Na_2CO_3 \cdot NaHCO_3 \cdot 2H_2O$	2819 2842 2 2844 451 2851 863 bath salt	Inorganic base	White needle-shaped crystals Soluble in water Less alkaline than sodium carbonate	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium sulfide a) Na_2S b) $Na_2S \cdot 9H_2O$	3111 3861 811	Sulfur compound	Yellow or brick red lumps or flakes or deliquescent crystals Soluble in water Contact with acid liberates poisonous gas; burns skin and eyes	CCD CCD CCD
Sodium sulfite Na_2SO_3	air clnrs deods 2842 332 2844 351 3861 811	Mineral acid	Small crystals or powder Fairly stable and does not oxidize as readily as the hydrated sulfite Soluble in 3.2 parts water, pH about 9	Merck 8
Sodium thiocyanate NaSCN	3861 811	Thiocyanate	Colorless, deliquescent crystals or white powder Soluble in water Poisonous	CCD CCD CCD
Sodium thiosulfate $Na_2S_2O_3$	2842 398 2842 498 2844 351 3861 811 3941 bath salt & oils	Sulfur compound	Powder Soluble in water	Merck 8 Merck 8
Sodium toluenesulfonate $CH_3C_6H_4SO_3Na$	2841 3 2841 5	Sulfonated hydrocarbon	Crystals Very soluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sodium tripolyphosphate $Na_5P_3O_{10}$	2819 bath salts & oils 2841 113 2841 115 2841 171 2841 175 2842 3 2842 331 2842 332 2842 396 2844 561 2899 3 2899 337	Mineral acid	White powder;slightly hygroscopic granules Solubility in water at 25° = 20 g/100 ml at 100° = 86.5 g/100 ml pH of 1% solution at 25° = 9.7-9.8 In humans,moderately irritating to skin mucous membranes. Ingestion can cause violent purging	CCD;Merck 8 Merck 8 Merck 8 Merck 8
Sodium xylene sulfonate $(CH_3)_2C_6H_3SO_3Na \cdot H_2O$	air clnrs bath salt 2841 3 2841 5 2842 312	Sulfonated hydrocarbon		
Sodium zinc silicate	2426	Metal salt		
Sorbitan derivative (See also:Sorbitan fatty acid esters)	2844 3 2844 321			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sorbitan fatty acid esters	deods & antip. hair prep baby lotion 2844 321 2844 515 2844 523 2844 525	Aliphatic acid Alcohol	Examples: Sorbitan monolaurate and sorbitan monooleate are amber liquids; sorbitan monostearate, sorbitan monopalmitate, and sorbitan tristearate are cream-colored waxy solids with slight odor and bland taste Insoluble in water No single oral dose is known to be lethal in laboratory animals, and man has been fed with impunity single doses of 20 gm or daily doses of 6 gm for 1 month.	CCD CCD Gleason
Sorbitan monostearate (See: Sorbitan fatty acid esters)				
Sorbitan sesquioleate	2844 522	Aliphatic acid Alcohol		
Sorbitol $C_6H_8(OH)_6$	deods & antip. toothpaste denture clnrs. baby lotion 2844 156 2844 232 2844 363 2844 471 2844 4	Alcohol	White, crystalline powder Odorless; faint, sweet, cooling taste Soluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sorbitol (continued)	2844 512 2844 513 2844 519 2844 522 2844 526 2844 545 3994			
Soya alkyd resin	2851 121-127	Condensation polymer		
Soy oil	2842 465 2851 631-637 2851 8 2851 811-857 3941	Aliphatic acid	Pale, yellow, fixed oil	CCD
Spearmint (See also:Mint) (Oil of spearmint)		Ketone		
Spermaceti	deods & antip hair prep 2844 511 2844 512 2844 513 2844 514 2844 521 2844 523 2844 525 2844 533 2844 545 2844 598	Aliphatic acid Alcohol	Pearly white,unctuous,semitransparent, concrete, fatty substance Almost odorless and tasteless;becomes rancid on exposure Insoluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sperm oil	2842 465	Aliphatic acid	Light yellow liquid	CCD
Stabilizers	3069 8 3079 65 3352 3999 119			
Stannous fluoride SnF_2	tooth-paste tooth-powder 2844 4	Fluorine compound Metal salt	White, lustrous, crystalline powder Salty, bitter taste Slightly soluble in water; soluble in water (about 30%) Forms an oxyfluoride, $SnOF_2$, on exposure to air.	CCD CCD CCD; Merck 8 Merck 8
Starch $(C_6H_{10}O_5)_x$	2951 2621 2621 100 2649 1 2653 2819 2834 9 2842 321 2842 395 2842 396 2842 397 2842 442 2844 543 2844 541 2844 561 2899 3 3692 3861 811 3941 3999 3	Carbohydrate	White, amorphous powder; irregular lumps, or fine powder Tasteless Insoluble in cold water Oxygen demand	CCD CCD CCD Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Starch, rice (See:Starch)				
Stearamide $CH_3(CH_2)_{16}CONH_2$	2891 171	Aliphatic acid	Colorless leaflets Insoluble in water	CCD CCD
Stearates (See also:Aluminum stearate,Magnesium stearate, etc.)	creams, lotions 2842 423 2844 523 2844 543	Aliphatic acid		
Stearic acid $CH_3(CH_2)_{16}COOH$	2834 611 2841 175 2842 411 2842 442 2842 498 2844 133 2844 511 2844 512 2844 513 2844 514 2844 518 2844 522 2844 525 2844 545 3011 3069 3069 8 3952 3999 411	Aliphatic acid	Colorless, wax-like material Odorless or slight odor;slight taste, suggesting tallow Sparingly soluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Stearin soap $C_3H_5(C_{18}H_{35}O_2)_3$	2844 133 2899 3	Aliphatic acid	Colorless crystals or powder Odorless;tasteless Insoluble in water	CCD CCD CCD
Stearyl alcohol $CH_3(CH_2)_{16}CH_2OH$	lotions, creams 2844 398 2844 511 2844 513	Alcohol	Unctuous white flakes or granules Faint characteristic odor and bland taste Insoluble in water In humans, low toxicity	CCD;Merck 8 CCD CCD Merck 9
Steel	2515 2591 3411 3461 1 3651 3991	Metal	An alloy of iron and 0.02-1.5% carbon	CCD
Steels, alloy		Metal		
Steel, carbon	3632 3633	Metal		
Steel, stainless	1925 3411 3461 3632	Metal	Group of steels that resist corrosion and oxidation much more strongly than ordinary steels and most alloy steels; contain high percentages of chromium	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Stibine SbH_3			Colorless gas Disagreeable odor Decomposes slowly on standing at room temp; decomposition products are hydrogen and metallic antimony, generally deposited in the form of a mirror Lethal concentration in air for mice: about 10 ppm In humans, injurious in 1:20,000 dilution a few inhalations may be fatal. Death from anoxia or pulmonary edema. Hemolytic anemia in nonfatal cases	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Stilbene	3941	Aromatic hydrocarbon	Practically insoluble in water	Merck 8
Stoddard solvent (naphtha, cleaners)	2842 3 2842 351 2842 393 2842 46[illegible] 2842 498 2851 898 2899 3[illegible]7 2992	Aliphatic hydrocarbon	Petroleum distillate clear and free from suspended matter and undissolved water, and free from rancid and objectionable odor	CCD
Strontium chloride a) $SrCl_2$ b) $SrCl_2 \cdot 6H_2O$	3941	Metal salt	White, crystalline needles Odorless; sharp, bitter taste Soluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Cymene, o p & m $CH_3\ C_6\ H_4\ CH(CH_3)_2$	2834 9	Aromatic hydrocarbon	Colorless transparent liquids Insoluble in water Lethal concentration inhalation in rats: 5000 mg/kg.	CCD Toxic Sub
∝- Cystline $HSCH_2\ CH\ (NH_2)\ COOH$	2011-2099	Aliphatic acid Organic sulfur compound	Colorless crystals Soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dacron (See:Fibers,synthetic)				
Dammar (See:Gums)				
DDT (Dichlorodiphenyltri-chloroethane) C_{14} H_9 CL_5	2834 9 2842 393	Halogenated hydrocarbon	Yellow crystals Practically insoluble in water Poisoning may occur by ingestion or by absorption through skin or respiratory tract. Estimated oral fatal dose 500 mg/kg. Solvents such as Kerosene increase toxicity Toxic dose orally in man: 16 mg/kg LD_{50} orally in rat is 150 mg/kg Toxic side effects in man:central nervous system effects, including headache, tremas, convulsions, hypnosis, drowsiness. Toxicity	Hackh's Merck 8 Merck 8 Toxic Sub III-B
Decamethylene-bis-(4-aminoquin-aldinium acetate) (See: Dequalinium)				
Defoaming agents	2621 2891 1 2891 171 2893 2911 7	Alcohols Organometallic compounds	Examples: 2-octanol Sulfonated oils Silicones	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Denatured alcohol	2842 351 2842 442 2891 1 2899 337 2911	Alcohol		
Dequalinium	2844 471	Pyridine		
Detergents (Surface active agents) If classified Anionic } go to Deter- Cationx } gents synthe- Nonionic } tic	2621 2641 2842 332 2842 393 2842 398 2842 4 2844 3 2844 351 2851 863 2899 3 2899 337 2899 37 2992 3352 3952			
Detergents, synthetic	2279 2834 5 2841 113 2841 115 2841 171 2841 175 2841 311 2841 5		Toxicity	III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Detergents (continued)	2842 3 2842 311 2842 321 2842 331 2842 341T 2842 381T 2842 394T 2842 398T 2842 411T 2842 423T 2842 465 2842 498 2844 3 2844 31 2844 515 2844 543 2851 863 2893 08			
Dextrin $(C_6H_{10}O_5)_x.H_2O$	2842 411 2844 31 2891 1 2891 179 2891 19 2899 3 3952	Carbohydrate	White or yellow amorphous powder Odorless to characteristic odor Soluble in three parts boiling water to a gummy solution. Less sol in cold water. Oxygen demand	Merck 8 Heukelekian
Diacetone alcohol $CH_3COCH_2C(CH_3)_2OH$	2295 2641 2851 9	Alcohol Ketone	Colorless liquid Pleasant odor Miscible with water LD_{50} orally in rats:4000 mg/kg	CCD Toxic Sub

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dialkylaniline	2821	Aniline		
Dialkyl dimethyl ammonium compounds	2842 394	Aliphatic amines		
Diallyl phthalates $C_6H_4(COOCH_2CH:CH_2)_2$	2821	Aromatic acid	Nearly colorless oily liquid LD_{50} orally in rats: 1679 mg/kg	CCD Toxic Sub
2,4-Diaminoanisole	2844 351	Aniline		
2,2-diaminodiethyl amine $H_2N(CH_2)_2NH(CH_2)_2NH_2$	2821	Aliphatic amine		
2,4-diaminophenol $C_6H_3OH(NH_2)_2$	2844 351	Aniline Phenol	Crystals Toxicity: see p-Phenylene diamine Approx.lethal dose orally in rat: 1700 mg/kg	Merck 8 Toxic Sub
Diaminophenol hydrochloride $C_6H_3(NH_2)_2OH.2HCl$	3861 811		Grayish-white crystals Soluble in water	CCD
Diamyl peroxide	2821	Alcohol		
Diaryl sulfones	3111	Organic sulfur compound		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Diatomaceous earth	2842 39 2842 393 2842 411 2842 498 2844 598 3941 3999 3	Metal salt		
4,5-Dibromosalicylanilide $BrC_6H_3(OH)CONHC_6H_4Br$	2842 332	Aromatic acid		
Dibucaine $C_{20}H_{29}N_3O_2$	2834 5 2834 613	Aromatic acid Pyridine	Colorless or almost colorless powder Odorless Slightly soluble in water Approx.lethal dose i.p. in rat: 1 mg/kg	CCD Toxic Sub
Dibucaine hydrochloride $C_{20}H_{29}N_3O_2.HCl$	2834 613		Fine white lustrous crystals or white powder Odorless Soluble in water LD_{50} i.v. in rabbit: 2.5 mg/kg	CCD Toxic Sub
2,6-di-tert-butyl-p-cresol $[C(CH_3)_3]_2CH_3C_6H_2OH$	2992	Phenol	White crystalline solid Insoluble in water	CCD
N,N'-di-sec-Butyl-p-Phenylene diamine $CH_3CH_2CH(CH_3)NHC_6H_4$ $NHCH(CH_3)CH_2CH_3$	2911 1 2911 131	Aniline	Amber to red liquid Insoluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dibytyl phthalate $1,2\text{-}(C_4H_9OOC)_2C_6H_4$	2511 2641 2844 531 2851 6 2891 171 2891 179 2893	Aromatic acid	Colorless liquid Toxicity Toxic dose orally in man:140 mg/kg Toxic side effects orally in man:central nervous system effects, including headache, tremas, convulsions, hypnosis, and drowsiness. Oxygen demand	Hackh's III-B Toxic Sub Toxic Sub Heukelekian
Dicalcium phosphate (See:Calcium phosphate dibasic)				
Dicalcium phosphate dihydrate (See:Calcium phosphate dibasic)				
Dicalcium silicate $2CaO.SiO_2$	3241	Metal salt		
o-Dichorobenzene $C_6H_4Cl_2$	2295 2842 3 2842 331 2842 332 2842 351 2842 393 2851 9 2851 911 2899 337 3141	Halogenated hydrocarbon	Liquid Practically insoluble in water LD i.v. rabbits 500 mg/kg Can cause injury to liver, kidneys.High concentrations cause CNS depression.	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
p-Dichlorobenzene $C_6H_4Cl_2$	2842 3 2842 331 2842 332 2842 381 2842 385	Halogenated hydrocarbon	Volatile crystals Characteristic penetrating odor Practically insoluble in water LD_{50} i.p. in rats 2.56 g/kg Continued exposure to vapor for months or years may cause headache, nausea, vomiting, weakness, protal cirrhosis subacate yellow atrophy of liver, cataract. Irritation to skin eyes, throat may occur. Toxicity	Merck 8 III-B
Dichlorodifluoromethane CCl_2F_2	3999 113	Halogenated hydrocarbon Fluorine compound	Colorless gas Odorless Slightly soluble in water	CCD
1,3-Dichloro-5,5-dimethyl hydantoin $C_5H_6Cl_2N_2O_2$	2842 331 2842 332 2819	Hypochlorite	On contact with water, especially hot water hypochlorous acid is liberated. Solubility in water at 25° - 0.21% 60° - 0.60% Chlorine released on decomposition may cause irritation of eves, mucous membranes.	Merck 8
Dichlorodimethyl succinate	2842 393	Aliphatic acid		
Dichlorodiphenyl dichloroethane (See:TDE)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dichlorodiphenyltrichloroethane (See:DDT)				
Dichlorofluoro methane $CHCl_2F$	2842 332	Halogenated hydrocarbon Fluorine compound	Colorless gas Nearly odorless Insoluble in water	CCD
Dichloroisocyanuric acid OCNClCONClCONH	2819	Hypochlorite	White crystalline powder	CCD
Dichloromethane (See:Methylene chloride)				
Dichlorophene $C_{13}H_{10}Cl_2O_2$	2834 9 2842 393 2851 128 2851 618	Phenol	Crystals Practically insoluble in water LD_{50} orally in mice 1.2 g/kg. Human side effects abdominal cramps and diarrhea.	Merck 8
Dichlorotetrafluoroethane $CClF_2CClF_2$	2842 332	Halogenated hydrocarbon Fluorine compound	Colorless gas Nearly odorless Insoluble in water	CCD
Dicyandiamide $NH_2C(NH)(NHCN)$	2491 2261 3111	Ammonia	Pure white crystals Soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dicyclohexyl phthalate $C_6H_4(COOC_6H_{11})_2$	2641	Aromatic acid	White granular solid Mildly aromatic odor Practically insoluble in water	CCD
Dieldrin (See:1,2,3,4,10,10-Hexachloro-6.7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo-exo-1,4 5,8-dimethano naphthalene)				
Diethanolamine $(HOCH_2CH_2)_2NH$	2842 411 2841 5 2844 511 2851 9 2851 911	Aliphatic amine	Colorless liquid Mild ammoniacal odor Miscible with water May be irritating to skin, mucous membranes. Toxicity Oxygen demand	Hackh's Merck 8 III-B Lamb
Diethylene glycol $CH_2OHCH_2OCH_2CH_2OH$	2279 2899 337 2992	Alcohol	Clear, colorless syrupy liquid Practically odorless Miscible with water Oxygen demand	CCD Heukelekian; Lamb
Diethylene glycol monoethyl ether $CH_2OHCH_2OCH_2CH_2OC_2H_5$	3141	Alcohol	Colorless liquid Mild pleasant odor	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Diethyl ether (See:Ethyl ether)				
Di (2-ethylhexyl adipate adipate $[-CH_2CH_2COOCH_2CH(C_2H_5)C_4H_9]_2$	2892	Aliphatic acid	Light colored oily liquid Insoluble in water	CCD
Di-2-ethylhexyl phthalate knit fabric mills 2256 $C_6H_4[COOCH_2CH(C_2H_5)C_4H_9]_2$	3352		Light-colored odorless liquid Insoluble in water	CCD
Di(2-ethylhexyl) sebacate $(-C_4H_8COOC_8H_{17})_2$	2892 3352	Aliphatic acid	Pale straw colored liquid Insoluble in water	CCD
Diethyl phthalate $C_6H_4(CO_2C_2H_5)_2$	2834 9 2891 171 2891 179	Aromatic acid	Water-white stable liquid Odorless Insoluble in water	CCD
Digalloyl trioleate	2834 6	Aliphatic acid Aromatic acid		
Diglyceride	2011-2099	Aliphatic acid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Diglycol laurates $C_{11}H_{23}COOC_2H_4OC_2H_4OH$	2842 415 2844 511 2844 513	Aliphatic acid Alcohol	Light straw colored oily liquid Practically odorless Dispersible in water Non-toxic	CCD
Diglycol stearate $(C_{17}H_{35}COOC_2H_4)_2O$	2842 341 2844 514 3941	Aliphatic acid Alcohol	White wax-like solid Faint fatty odor Disperses in hot water	CCD
2,2'-Dihydroxy-5,5'-dichloro-diphenylmethane (See:Dichlorophene)				
Diisobutyl ketone $(CH_3)_2CHCH_2COCH_2CH(CH_3)_2$	2851 9	Ketone	Colorless liquid Mild odor Immiscible with water	CCD
p-Diisobutylphenoxy-ethoxyethyl-dimethyl benzyl ammonium chloride (See:Benzethonium chloride)				
Diisocyanates	2821	Aniline		
Diisopropanolamine $(CH_3CHOHCH_2)_2NH$	2844 232	Aliphatic amines	White crystalline solid Miscible with water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dimethylamine $(CH_3)_2NH$	2262	Aliphatic amine	Gas Characteristic odor Very soluble in water forming a strong alkaline solution. Irritating to skin, mucous membranes.	Merck 8
p-Dimethylaminobenzoic acid & esters $(CH_3)_2NC_6H_4COOH$	2844 515	Aromatic acid Aniline	Pale yellow crystals	CCD
Dimethylbenzyl ammonium chloride	2842 332			
Dinitroanilines $C_6H_5N_3O_4$	2879	Aniline	2,4 isomer - Yellow needles Practically insoluble in cold water. May be irritating to skin mucous membranes - highly toxic if absorbed. See also Metroaniline for toxicity	Merck 8
2,6-Dinitroaniline			2,6 isomer - Light orange needles Practically insoluble in water. Toxicity: see Metroaniline.	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dioctyl sodium sulfo succinate $C_{20}H_{37}NaO_7S$	2834 8 2844 4 2844 561	Aliphatic acid Alcohol	Wax-like solid Solubility in water 25° 15 g/l Use in ophthalonic preparations may cause conjunctival irritation.	Merck 8
Dioctyl phthalate (See:Di-2-ethylhexyl phthalate)				
Dioxane $OCH_2CH_2OCH_2CH_2$	2891 1	Alcohol	Colorless liquid Faint pleasant odor Miscible with water Vapor harmful	CCD
Dipentene $C_{10}H_{16}$	2834 9	Aliphatic hydrocarbon	Colorless liquid Pleasant lemon-like odor Insoluble in water	CCD
Diperodon	2834 5			
Diphenylguanidine $HN:C(NHC_6H_5)_2$	3011	Aniline	White crystalline powder Slightly soluble in water	CCD
Di(phenylomercuric) dodecenyl succinate	2842 393	Organometallic compound Metal salt		
Dipropylene glycol $(CH_3CHOHCH_2)_2O$	2842 381 2899 337	Alcohol	Colorless, slightly viscous liquid Soluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
N,N'Disalicylidene-1,2-diaminopropane $HOC_6H_4CH:NCH_2CH(CH_3)N:CHC_6H_4OH$	2911 1 2911 131	Aldehyde Aliphatic amine	Insoluble in water	CCD
2,2'dithiobis benzothiazole $(C_6H_4SCN)_2S_2$	2851 8 3069	Organic sulfur compound	Pale yellow needle Insoluble in water Human toxicity high. LD_{50} in mice i.v. 100 mg/kg.	Merck 8
Dowicide A	2842 498 2891 1 2891 179 3952	Phenol		
Driers	2851 5 2851 6 2851 7 2851 8 2891 183 2893	Metal salt	Examples: Vanadium compounds Manganese compounds Zinc compounds Iron compounds Cobalt compounds Potassium hydroxide Lead naphthenate Lead octoate Lead tallate Aluminum stearate Calcium stearate	
Dry-flo	2844 541	Carbohydrate	Trademark for starch ester derivative containing hydrophobic groups. Cannot be wetted with water; can be gelatinized when moistened with a water-miscible solvent.	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Dyes	2279 2621 2653 2819 2841 5 2842 3 2842 311 2842 331 2842 332 2842 394 2842 396 2842 411 2842 415 2842 423 2842 498 2893 08 2899 3 2899 336 2899 37 2911 2911 1 2911 131 2911 7 2992 3942 053 3952 3955 03 3994 3999 3 3999 411		Color Oxygen demand - zero for some	CCD Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
EDTA (See:Ethylene diamine-tetraacitic acid)				
Egg	2844 3 2844 31	Aliphatic acid		
Elastomers	2851 2 2851 211 2851 4 2851 8	Addition polymers	Examples: Polyvinyl acetate Acrylic Styrene-butadiene	
Emulsifiers (Emulsions)	2072 2086 2299 2841 175 2842 3 2842 321 2842 341 2842 385 2842 393 2842 396 2842 4 2842 411 2842 415 2844 512 2844 513 2851 2 2851 211 2851 411 2851 863 2893 08 2899 3 2899 337 3952		Examples: Egg yolk Casein Proteins Soap Gums (acacin, algin, Irish moss) Water soluble cellulose derivatives Lignin Betonite Quaternary ammonium compounds Sulfonated oils Poly hydric alcohol esters & ethers	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Enzymes	3111 2841 115 2842 331			
Ephedrine $C_{10}H_{15}NO$	2834 5	Aliphatic amine		
Epinephrine $C_6H_3(OH)_2CHOHCH_2NHCH_3$	2834 5	Aliphatic amine Phenol	Light brown or nearly white powder Odorless Sparingly soluble in water	CCD
Epoxy compounds (See:Epoxy resins)				
Epoxy resins (compounds)	2295 2514 2522 2851 8 2891 1 2891 171 3411 3496 012 3496 013	Addition polymers		
Erythrosine $C_{20}H_6I_4Na_2O_5$		Synthetic coloring matter	Brown powder;forms cherry red solution in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Essential oils	2087 2647 2834 5 2834 6 2834 631 2834 635 2841 175 2841 3 2841 311 2841 5 2842 135 2842 3 2842 311 2842 331 2842 332 2842 341 2842 351 2842 381 2842 385 2842 396 2842 398 2842 4 2842 411 2842 415 2842 423 2842 442 2842 498 2844 133 2844 156 2844 159 2844 223 2844 232	Alcohol Aldehydes Aliphatic hydrocarbons	Nearly colorless volatile oils that become darker and thick on exposure to air. Insoluble in water. Characteristic odor Toxicity has been shown on skin of white mice. Oily	CCD K-O

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Essential oils (continued)	2844 233 2844 31 2844 321 2844 341 2844 351 2844 363 2844 398 2844 431 2844 511 2844 512 2844 513 2844 521 2844 522 2844 523 2844 524 2844 525 2844 533 2844 541 2844 543 2844 545 2844 561 2851 9 2899 3 2899 337			
Ester gum	2851 5 2851 511 2851 7 2893	Rosin acids	Color	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Esters	2821 2834 6 2844 519 2844 545 2893			
Esters of higher aliphatic acids	2821	Aliphatic acids		
Esters, paint, solvent/ thinner	2851 9	Alcohols	Examples: Amyl acetate n-butyl acetate Sec butyl acetate Ethyl acetate	
Estrogens	2844 513	Sterols		
Ethanal (See:Ethyl alcohol)				
Ethanolamide of lauric acid	2844 31	Aliphatic acid		
Ethanalamine $HOCH_2CH_2NH_2$	2844 336 2844 511 2851 9 2851 911 2992	Aliphatic amine	Colorless, viscous liquid Ammoniacal odor Miscible with water LD_{50} orally in rats 2.1 g/kg Oxygen demand Toxicity	CCD Merck 8 Heukelekian, Lamb III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ethanolamine oleate	2842 411	Aliphatic acid Aliphatic amine		
Ether (See:Ethyl ether)				
Ethoxylated sorbitan oleate (See:Sorbitan fatty acid esters)				
Ethoxylated tridecyl alcohol	2841 175	Alcohol		
Ethyl acetate $CH_3COOC_2H_5$	2842 398 2844 531 2844 533 2851 9 2891 1 2891 179 2899 3	Aliphatic acid Alcohol	Colorless liquid Fragrant Slightly soluble in water Oxygen demand	CCD Heukelekian, Lamb
Ethyl alcohol C_2H_5OH	2511 2834 6 2834 635 2834 8 2834 9 2841 175 2841 3 2841 5 2842 135	Alcohol	Colorless, limpid, volatile liquid Ethereal vinous odor Soluble in water Oxygen demand	CCD Heukelekian, Lamb

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ethyl alcohol (continued)	2842 311 2842 332 2842 341 2842 351 2842 381 2842 398 2842 411 2842 423 2842 442 2842 465 2842 498 2844 133 2844 156 2844 159 2844 2 2844 223 2844 232 2844 233 2844 31 2844 313 2844 321 2844 341 2844 363 2844 4 2844 411 2844 471 2844 511 2844 515 2844 519 2844 522 2844 523 2844 524			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ethyl alcohol (continued)	2844 526 2844 531 2844 533 2844 545 2844 561 2844 598 2851 135 2851 3 2851 6 2851 613 2851 863 2851 898 2851 9 2861 2891 1 2891 171 2891 179 2893 2893 08 2899 3 2899 336 2899 337 2899 37 2992 3111 3141 3861 811 3941 3952			
Ethyl amyl ketone $CH_3CH_2CO(CH_2)_4CH_3$	2851 9	Ketone	Colorless liquid Pungent odor	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ethyl bromo acetate $CH_2BrCOOC_2H_5$	3999	Aliphatic acid	Clear colorless liquid Partially decomposed by water Insoluble in water Poisonous	CCD
Ethyl cellulose	2844 522 2851 863 3079 3652	Carbohydrate	White granular thermoplastic solid Insoluble in water	CCD
Ethylene diamine tetra-acetic acid $(HOOCCH_2)_2NCH_2CH_2N(CH_2COOH)_2$	2841 175 2841 5 2842 3 2842 331 2842 332 2842 381 2844 3 2844 31 2992	Aliphatic acid Aliphatic amine	Colorless crystalline solid Slightly soluble in water Oxygen demand Toxicity	CCD Heukelekian III-B
Ethylene dibromide $BrCH_2CH_2Br$	2911 1	Halogenated hydrocarbon	Colorless volatile liquid Sweetish odor Slightly soluble in water Poisonous. Harmful vapor and liquid causes skin irritation and burns. Absorbed through skin.	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ethylene dichloride $ClCH_2CH_2Cl$	2834 9 2842 341 2842 351 2851 863 2851 9 2851 911 2891 1 2911 1 2899 337	Halogenated hydrocarbon	Heavy liquid Toxicity Pleasant odor Solub e in 120 parts water LD_{50} orally in rats 770 mg/kg. Vapors produce irritation of respiratory tract and conjunctive, corneal clouding, equilibrium disturbances narcosis, abdominal cramps. Death due to liver and kidney injury following ingestion of large amounts. Oxygen demand	Merck 8 III-B Mills 8, Heukelekian
Ethylene glycol $HOCH_2CH_2OH$	2834 9 2841 5 2842 311 2842 415 2842 442 2851 2 2851 211 2851 4 2851 411 2851 8 2893 08 2899 336 2899 337 2992 3069 8 3861 811 3949 2 3999 119	Alcohol	Slightly viscous liquid Miscible with water Poisonous. Constitutes a hazard when ingested. Transient stimulation of CNS followed by depression; vomiting; drowsiness, coma; respiratory failure, convulsions, renal damage, death. Oxygen demand Toxicity	Merck 8 Heukelekian, Lamb III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ethylene glycol monobutyl ether $HOCH_2CH_2OC_4H_9$	2842 311 2842 321 2842 341 2842 351 2842 398		Colorless liquid Mild odor Soluble in water	CCD
Ethylene glycol monoethyl ether acetate $CH_3COOCH_2CH_2OCH_3$	2842 381 2851 9 3999 119	Alcohol	Colorless liquid Pleasant characteristic ester odor Soluble in water	CCD
Ethylene glycol monostearate $C_{11}H_{35}COO(CH_2)_2OH$	2844 543	Aliphatic acid Alcohol	Yellow waxy solid Insoluble in water	CCD
Ethylene oxide $\overline{CH_2CH_2O}$	2842 332	Alcohol	Colorless gas or mobile liquid Miscible with water Vapor harmful. May cause burns.	CCD
Ethylene vinyl acetate copolymer	3069	Addition polymer		
Ethylhexanediol $C_3H_7CH(OH)CH(C_2H_5)$ CH_2OH	2842 135	Alcohol	Practically colorless, somewhat viscous liquid Odorless Partially soluble in water Irritating to eyes	CCD
2-Ethylhexyl salicylate	2844 515	Aromatic acid Phenol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ethyl lactate $C_5H_{10}O_3$	2844 531	Aliphatic acid	Colorless liquid Characteristic odor Miscible with water	Merck 8
Ethyl mercuric phosphate $(C_2H_5HgO)_3$ PO	2842 393	Metal salt Organometallic compound	White powder Garlic-like odor Soluble in water Poisonous by inhalation or swallowing. May cause skin irritation or delayed chemical burns.	CCD
Ethyl oleate (See also:Synthetic perfumes and oils)	2844 533		Yellowish, oily liquid Insoluble in water	Merck 8 Merck 8
Ethyl paraben $C_9H_{10}O_3$	2844 545	Aromatic acid Phenol	Crystals Soluble in water at 20° = 0.070%	Merck 8
Ethyl parasept (See:Ethyl paraben)				
Ethyl triethanalamine	2861			
Ethyl vanillin $OHC_6H_3(OC_2H_5)CHO$	2086 2087	Phenol Aldehyde	Fine white crystalline material Intense odor of vanillin Affected by light Slightly soluble in water	CCD
Ethyl Ether $C_2H_5OC_2H_5$	2841 5 2842 341 2899 3 2911		Mobile, volatile liquid Characteristic sweetish, pungent odor Mildly irritating to skin, mucous membrane Oxygen demand	Merck 8 Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Eucalyptal $C_{10}H_{18}O$	2844 4	Alcohol	Colorless liquid Camphor-like odor Insoluble in water Skin eruptions may occur in sensitive individuals. Amounts of 3 to 30cc have been fatal. Excessive use may cause CNS disturbances.	Merck 8
Eucalyptus oil	2834 6 2834 613 2834 631 2834 635 2834 9 2844 4 3842 161	Alcohol	Colorless or faintly yellowish oil Aromatic odor Almost insoluble in water	CCD
Eugenol $C_3H_5C_6H_3(OH)OCH_3$	2834 9 2893 3842 161	Phenol	Colorless or yellowish liquid, oily Becomes brown in the air Spicy odor Very slightly soluble in water	CCD
Fatty acid amide	2841 3 2841 175 2841 5 2842 394 2844 351	Aliphatic acid	Monobasic organic acids derived from natural fats and oils eg: palmitic stearic oleic linoleic linolenic	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Fatty acids	2841 311 2842 3 2842 411 2842 423 2842 498 2844 561 2851 8 2992 3952	Aliphatic acid		
Fatty alcohols	2842 341 2844 351 2844 523 2844 511	Alcohol		
Fatty alcohol esters (See:Fatty esters)				
Fatty amides	2842 411 2842 465 2844 351	Aliphatic acids		
Fatty esters	2842 381	Aliphatic acids Alcohols		
Feldspar $KAlSi_3O_8$	2841 175 3269 3461 1	Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ferric ammonium citrate $Fe(NH_4)_3(C_6H_5O_7)_2$	3861 811	Aliphatic acid Metal salt	Thin transparent garnet red scales or brownish yellow powder Odorless or slight ammonia odor Affected by light Soluble in water	CCD
Ferric ammonium sulfate $FeNH_4(SO_4)_2 \cdot 12H_2O$	3861 811 3941	Metal salt	Lilac to violet crystals Soluble in water	CCD
Ferric chloride $FeCl_3$	2844 351 3861 811	Metal salt	Dark leaflets appear red, green or brownish-black Soluble in water Irritant in anhydrous form Hexahydrate has slight HCl odor and LD orally in rats: 900 mg/kg Toxicity	Merck 8 III-B
Ferric Ferrocyanide $C_{18}Fe_7N_{18}$	3952	Metal salt	Dark blue powder or limps Practically insoluble in water	Merck 8
Ferrons sulfate $FeSO_4 \cdot 7H_2O$	2086	Metal salt	Greenish crystals, often brownish-yellow from oxidation Odorless Soluble in water	CCD
Fiberglas	2298 2821	Metal salt		
Fibers, mineral	3079	Metal salt	Example: asbestos	

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Fibers, natural	2042 2098 2298 2299 2515 2519 2891 1 3069 8 3079 3842 3942 053 3955 03 3991 3991 1	Carbohydrate Aliphatic acid	Insoluble in water	CCD
Fibers, synthetic	2298 2299 2399 08 2514 2522 2647 3079 3411 3641 3955 01 3991 3991 1	Carbohydrate Aliphatic acid Aromatic acid Addition polymer Condensation polymer		
Fibrid textiles, N.E.C. 2299				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Fibroin, hydrolyzed silk	2844 543	Aliphatic acid	Pale yellow mass Insoluble in water	Merck 8
Fish oil	2834 621 2851 6 2851 8	Aliphatic acid	Includes: cod liver, porpoise, tuna, halibut, salmon, herring, sardine, menhaden, shark Colored dark red	CCD Hackh's
Flavoring	2073 2086 2087 2095 2111 2131 2844 111 2844 4 2844 411 2844 431 2844 471 2844 498			
Floral waters	2844 519			
Flour (See also: Algaroba)	2051 2842 341 2842 396 3069 8 3111	Carbohydrate	White starchy powder	Hackh's
Fluorocarbons	2821	Fluorine compounds	Characterized by extreme chemical inertness. Low solubility	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Formaldehyde HCHO	2262 2842 332 2842 381 2842 385 2842 393 2842 396 2842 411 2891 1 3111 3861 811 3952 3994 3999 3	Aldehyde	Colorless gas Pungent odor Soluble in water Poisonous. Causes irritation of the skin eyes, nose, and throat. Oxygen demand	CCD Heukelekian
Formic acid HCOOH	2111 2842 332	Aliphatic acid	Colorless, fuming acid Pungent penetrating odor Soluble in water Dangerously caustic. Causes burns, avoid breathing vapor. Oxygen demand	CCD Heukelekian
Fossil gums & resins	2899 3	Aliphatic acid	Pale yellow to brown or reddish-brown	CCD
Fractal A	2851 8			
Fragrances (See:Essential oils)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Freons	2821 2842 332 2842 351 2842 381 2842 395 2842 398 2842 423 2842 442 2844 363 2851 381 2911 3994 3999 113	Halogenated hydrocarbons	Clear water-white liquid Mild ethereal odor Low in toxicity	CCD
Fumarated ROS/TEG	2893			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Fumaric acid HOOCCH:CHCOOH	2086	Aliphatic acid	Colorless crystals Odorless Solubility in water 25° 0.63g/100g	
Furnace black	3069	Non-metallic element		
Gallic acid $C_6H_2(OH)_3CO_2H \cdot H_2O$	2899 37	Aromatic acid Phenol	Colorless or slightly yellow, crystalline needles or prisms. Sparingly soluble in water One gram dissolves in 87 ml water, 3 ml boiling water LD s.c. in rats: 4g/kg Incompatible with ferric salts (bluish-black ppt), chlorates, permanganates, ammonia, lead acetate, alkali hydroxides and carbonates, opium in solution silver salts, oxidizing agents, spirit nitrous ether. Oxygen demand	CCD CCD Merck 8 Merck 8 Merck 8 Heukelekian
Gardol (See:Sodium N-lauroyl sarcosinate)		Aliphatic acid		
Gasoline	2851 135 2851 3 2851 365 2851 367 2851 9 2851 911 2851 931	Aliphatic hydrocarbon	Mobile liquid with characteristic odor Insoluble in water Dissolves fats, oils, natural resins In humans, ingestion causes inebriation, vomiting, fever, vertigo, drowsiness, confusion, cyanosis; aspiration causes bronchitis or pneumonia;	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Gasoline (continued)	2911 131		inhalation causes intense burning in throat and lungs, possibly broncho-pneumonia. Oxygen demand	 Heukelekian
Gelatin	2844 498 2899 3 3861 6 bath salts & oils	Aliphatic acid	Colorless or slightly yellow, transparent brittle sheets, flakes, shreds, pellets, or a coarse or fine powder. Practically odorless Tasteless Soluble in hot water Swells up and absorbs 5 to 10 times its weight of water. Oxygen demand	CCD Heukelekian
Gentian violet (See:Methyl violet)				
Geraniol $(CH_3)_2C:CH(CH_2)_2C(CH_3):CHCH_2OH$	3842 161	Alcohol	Colorless to pale yellow, liquid oil Pleasant geranium-like odor Insoluble in water	CCD CCD CCD
Germanium Ge	3651		Grayish-white metal	CCD
Germanium dioxide GeO_2	3231	Metal oxide	White powder Slightly soluble in hot water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Gibberellic acid $C_{19}H_{22}O_6$	3941	Aromatic acid	Crystals Slightly soluble in water	CCD CCD
Gilsonite	2851 137 2851 139	Aliphatic Hydrocarbon	Color in mass, black	CCD
Glass, plate	3231 5 3999 3	Metal salt		
Glucono-o-lactone $C_6H_{10}O_6$	2051	Aliphatic acid	Crystals Sweet taste (different from gluconic acid) Solubility in water 59g/100 ml Is hydrolyzed to gluconic acid by water A freshly prepared 1% aq. solution has a pH of 3.6 changing to pH 2.5 within 2 hrs. No specific data on human toxicity, but most lactones have low toxicity	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Glucose $C_6H_{12}O_6$	mouth wash 2073 2087 2111 2891 1 2899 3 2992 3952	Carbohydrate	Colorless to yellow Soluble in water LD_{50} i.p. in rats: 2000 mg/kg Oxygen demand	CCD CCD Toxic Sub Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Glue, animal	2621 2649 1 2891 1 2891 19 3952 3999 3			
Glutaraldehyde $OHC(CH_2)_3CHO$	3111 3994	Aldehyde	Liquid Completely soluble in water	CCD CCD
Glycerine (See:Glycerol)				
Glycerol $CH_2OHCHOHCH_2OH$	2834 6 2834 9 2841 3 2841 311 2842 332 2842 341 2842 351 2842 411 2842 415 2842 465 2844 111 2844 133 2844 156 2844 159 2844 31 2844 313 2844 4 2844 411	Alcohol	Clear,colorless,or pale yellow,syrupy liquid Odorless Sweet warm taste;about 0.6 times as sweet as cane sugar Soluble in water Absorbs moisture from air;miscible with water Aqueous solutions are neutral LD orally in mice: 31.5 g/kg; i.v. in mice: 7.56 g/kg Oxygen demand Toxicity	CCD CCD CCD;Merck 8 CCD Merck 8 CCD Merck 8 Heukelekian III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Glycerol (continued)	2844 471 2844 511 2844 512 2844 513 2844 514 2844 515 2844 519 2844 522 2844 525 2844 539 2844 545 2844 598 2891 1 2891 171 2893 08 2899 336 2899 337 2899 37 2992 3141 3861 811 3941 3949 2 3952 3994			
Glycerol esters		Aliphatic acid	If any of these esters is significantly toxic the acid portion must be held responsible, not the glycerol.	Gleason

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Glyceryl monostearate $(C_{17}H_{35})COOCH_2CHOHCH_2OH$	2834 611 2844 511 2844 513 2844 514 2844 519 2844 523 2844 525 2844 539 2844 543 2844 545 2844 598	Aliphatic acid Alcohol	Pure white or cream-colored, wax-like solid Faint odor Fatty, agreeable taste Dispersible in hot water	CCD CCD CCD CCD
Glyceryl p-Aminobenzoate $C_{10}H_{13}NO_4$	2844 515	Aromatic acid Aniline	Semisolid, waxy mass or syrup Faint aromatic odor Insoluble in water Liquefies and congeals very slowly	Merck 8 Merck 8 Merck 8 Merck 8
Glyceryl stearate (See:Glyceryl mono-stearate)				
Glycol ether(s)	2841 115 2842 311 2842 423 2844 531 2851 9 2893 08 2899 3 2899 37 2992	Alcohol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Glycol(s) $CH_2OH \cdot CH_2OH$	Foot preps Hair preps Air clnrs, deods 2842 321 2844 351 2844 512 2844 545 2851 9 2851 911 2893 08 2899 336 2899 37 3952 3994	Alcohol	Colorless liquid Miscible with water	Hackh's Hackh's
Glyodin			A fungicide (or fungostatic) of low toxicity in laboratory animals; concentrated solutions are irritating to the skin.	Gleason
Glyoxal $C_2H_2O_2$	3994	Aldehyde	Yellow prisms or irregular pieces turning white on cooling; mild odor Polymerizes quickly on standing on contact with water (violent reaction), or when dissolved in solvents containing water; pH of a 40% aq.soln. is 0.9 LD_{50} orally in rats: 2.0 g/kg	Merck 8; CCD Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Gold	3911 3941	Metal		
Gold trichloride (Gold chloride) $AuCl_3$ $AuCl_3 \cdot 2H_2O$ $AuCl_3 \cdot HCl \cdot 4H_2O$ $HAuCl_4 \cdot 4H_2O$	3861 811	Metal salt	Yellow to red crystals Soluble in water	CCD CCD
Graphite (See also:Carbon)	2821 2842 498 2891 179 2911 2911 7 2992 3941 3952 3999 117	Non-metallic element	Relatively soft,greasy feel, steel gray to black color	CCD
Guanidine $NHC(NH_2)_2$	2879	Ammonia	Colorless crystals Soluble in water; very soluble in water LD orally in rabbits: 500 mg/kg	CCD CCD;Merck 8 Merck 8
Guanine $C_5H_5N_5O$	3961	Pyridine	Amorphous or small colorless rhombic crystals Insoluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Gum arabic	2842 415 2844 363 2844 98 2844 598 2891 1 3941 3952 3999 3	Carbohydrate	White to yellowish white thin flakes, powder, granules or angular fragments Almost odorless Mucilaginous taste Completely soluble in hot and cold water yielding a viscous solution of mucilage	CCD CCD CCD CCD
Gum, karaya	creams, lotions 2844 313 2844 363 2844 4 2844 498	Carbohydrate	Color varies from large white tears to dark brown or black Finely ground white powder Does not dissolve in water, but forms a translucent colloidal solution. Powdered gum swells in water. Faint odor of acetic acid In humans, allergic manifestations have occurred from internal use or topical application.	CCD Merck 8 CCD Merck 8 Merck 8
Gums, natural	2086 2087 2621 2641 2647 2844 233 2844 531 2844 543 2891 1 2899 37 3652 3952	Carbohydrates	Plant exudations that are soluble in water or swell in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Gums, synthetic	lotions creams 2073 2087 3952			
Gum tragacanth	2842 442 2844 111 2844 341 2844 363 2844 411 2844 431 2844 498 2844 512 2844 522 2844 523 2844 598 3941 3999 3	Carbohydrates	Odorless Insipid, mucilaginous taste 60 to 70% are insoluble in water, but swell to form a gel; this is regarded as bassorin. The soluble portion (30 to 40%) that gives a colloidal hydrosol solution with water is called tragacanthin.	Merck 8 Merck 8 Merck 8
Gypsum cements	2899 3 3952	Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Hair, animal	2515	Aliphatic acid		
Halazone $HOOCC_6H_4SO_2NCl_2$	2842 332	Hypochlorite Aromatic acid	White crystalline powder Strong chlorine odor Slightly soluble in water	CCD CCD CCD
Halimide $C_{22}H_{40}ClN$		Aliphatic amine	Pale yellow, glassy solid	Merck 8
Hamamelis water (See:Witch hazel)				
Hematoxylin $C_{16}H_{14}O_6 \cdot 3H_2O$	3941	Coloring matter	Colorless to yellow crystals, redden on exposure to light Slightly soluble in water	CCD CCD
Heptachlor $C_{10}H_5Cl_7$	2842 332	Halogenated hydrocarbon	Crystals LD_{50} orally in rats: 90 mg/kg In humans, poisoning may occur by ingestion, inhalation, skin contamination. Acute poisoning causes a toxia convulsions, renal damage, respiratory failure, death. Repeated small doses in experimental animals have resulted in hepatic damage. Toxicity	Merck 8 Merck 8 Merck 8 III-B
2-Heptadecylimidazoline (See:Glycdin)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
n-Heptane $CH_3(CH_2)_5CH_3$	2891 179	Aliphatic hydrocarbon	Insoluble in water Lethal concentration for mice in air: 16,000 ppm In humans, may be irritating to respiratory tract, and, in high concentrations, narcotic.	Merck 8 Merck 8 Merck 8
2-(Heptadecenyl)-2-imidazoline-1-ethanol $C_{22}H_{42}N_2O$	2842 331	Aliphatic amine		
Hexachlorobenzene C_6Cl_6	2842 332	Halogenated hydrocarbon	Colorless needles Insoluble in water In humans, may produce mild skin irritation on prolonged contact; animal experiments suggest low systemic toxicity. Toxicity	Hackh's Hackh's; Merck 8 Merck 8 III-B
1,2,3,4,10,10-Hexachloro-6,7-epoxy-1,4,4a,5,6,7,8,8a-octahydro-endo-exo-1,4:5,8-dimethanonaphthalene Dieldrin $C_{12}H_8Cl_6O$	2231 2851 811-857	Halogenated hydrocarbon	Crystals Practically insoluble in water LD_{50} orally in rats: 87 mg/kg In humans, readily absorbed through skin; effects similar to DDT.	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
1,2,3,4,10,10-Hexachloro-1,4,4a,5,8,8a-hexahydro-endo-exo-1,4:5,8-dimethano-naphthalene (Aldrin) $C_{12}H_8Cl_6$	pesticide insecticide 2231 2351 811-857	Halogenated hydrocarbon	Crystals Insoluble in water LD_{50} orally in rats: 67 mg/kg In humans, poisoning may occur by ingestion, inhalation, skin absorption. Acute poisoning may cause renal damage tremors, ataxia, convulsions followed by CNS depression, respiratory failure death; prolonged exposure may cause hepatic damage. LD_{50} orally in rats:55 mg/kg; applied to intact skin in rat. LD about 15 mg/kg.	Merck 8 Merck 8 Merck 8 Merck 8 Toxic Sub
Hexachlorophene $(C_6HCl_3OH)_2CH_2$	2834 6 2834 611 2834 617 2834 8 2834 9 2841 311 2842 381T 2842 423T 2844 156 2844 31 2844 321 2844 341 2844 4 2844 511 2844 513 2844 517 2844 519 2844 524	Phenol	White, free-flowing powder; crystals Essentially odorless Insoluble in water; practically insoluble in water Forms salts with alkalies and alkaline earths No hazards except those associated with inhalation of fine powders Toxicity	CCD:Merck 8 CCD CCD:Merck 8 Merck 8 CCD III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Hexachlorophene (continued)	2844 525 2844 526 2844 541 2844 598 2992			
n-Hexane C_6H_{14}	2072 2844 531 2891 179 3069 864	Aliphatic hydrocarbon	Colorless, volatile liquid Faint, peculiar odor Insoluble in water Lethal concentration for mice in air about 40,000 ppm In humans, may be irritating to respiratory tract, and, in high concentrations, narcotic.	CCD:Merck 8 CCD:Merck 8 CCD:Merck 8 Merck 8 Merck 8
Hexylene glycol $(CH_3)_2COHCH_2CHOHCH_3$	2992	Alcohol	Colorless liquid Nearly odorless Miscible with water	CCD CCD CCD
Hexylresorcinol $C_6H_{13}C_6H_3(OH)_2$	2842 393 2844 471	Phenol	White to yellowish-white needle-shaped crystals Faint, fatty odor Sharp, astringent taste Slightly soluble in water	CCD CCD CCD CCD
Homomenthyl salicylate $(CH_3)_3C_6H_8OOCC_6H_4OH$	2844 515	Phenol Aromatic acid	Light yellow oil Almost odorless Insoluble in water Neutral and nonirritating to the skin	CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Honey	creams, lotions 3949 2	Carbohydrate		
Humectant	creams, lotions 2844 512	Alcohol	Example: glycerol	CCD
Hycar 1571 (See:Rubbers,synthetic)				
Hydrazine dihydrochloride $N_2H_4 \cdot 2HCl$	3861 811	Ammonia	Colorless crystals Soluble in water	CCD CCD
Hydrocarbons (See:Specific aromatics, e.g.,xylene) (Specific aliphatics, e.g.,hexane)	2851 6			
Hydrochloric acid HCl	toilet bowl clnrs Air clnrs deods 2841 115 2841 175 2841 179 2842 331 2842 332 2842 411	Mineral acid	Clear, colorless fuming liquid May be colored yellow by traces of iron, chlorine, and organic matter In humans, concentrated solutions cause severe burns;permanent visual damage may occur.Dermatitis and photosensitization possible from industrial contact; inhalation may cause cough, choking,inflammation and ulceration of respiratory tracts.Ingestion may cause corrosion of mucous membranes,esophagus,	Hackh's Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Hydrochloric acid (continued)	2899 337 3861 811		stomach, dysphagia,nausea,vomiting, intense thirst,diarrhea. Circulatory collapse and death may occur.	
Hydrocortisone acetate $C_{23}H_{32}O_6$	2834 617	Alcohol	White crystalline powder Odorless Practically insoluble in water	CCD CCD CCD
Hydrocortisone (-alcohol) $C_{21}H_{30}O_5$	creams, lotions 2834 5 2844 498	Alcohol	White crystalline powder Odorless; bitter taste Insoluble in water	CCD CCD CCD
Hydrogenated oils	2844 514 2844 521	Aliphatic acids		
Hydrogen chloride (See:Hydrochloric acid)				
Hydrogen peroxide H_2O_2	2819 2844 3 2844 336 2844 519 3861 811		Colorless liquid Anhydrous hydrogen peroxide is soluble in water Contact with the more concentrated solutions should be avoided	CCD CCD CCD
Hydrogen sulfide H_2S	2653	Sulfur compound	Colorless gas Offensive odor Sweetish taste Soluble in water Dangerously poisonous; gas deadens the sense of smell.	CCD CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Hydroquinone $C_6H_6O_2$	2834 6 2842 393 2844 515 2992 3861 811	Phenol	White crystals Soluble in water Oxygen demand	CCD Heukelekian
p-Hydroxybenzoate	2842 415 2842 423 2844 31 2844 4 2844 513 2844 521 2844 523	Phenol Aromatic acid		
p-Hydroxybenzoic acid $C_6H_4(OH)COOH \cdot H_2O$	2842 398	Phenol Aromatic acid	Colorless cyrstals Soluble in water	CCD CCD
Hydroxyethyl cellulose (See also:Cellosize)	2842 415 2844 498 3952	Carbohydrate	White, free-flowing granular powder Soluble in hot or cold water	CCD
p-Hydroxymercuri-m-cresol,anhydrous $C_6H_3CH_3(HgOH)(OH)$	2834 613	Phenol Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
8-Hydroxyquinoline C_9H_6NOH	2842 393 3941	Pyridine Phenol	White crystals or powder, darkens when exposed to light Phenolic odor Almost insoluble in water For dysentery treatment, men have received oral doses of 3 gm in solution four times daily, without apparent ill-effect. Rabbits tolerate single doses of 3.7 gn/kg (as the sulfate, mixed with potassium sulfate). Injected in animals, however, it is distinctly toxic and causes marked stimulation of the CNS. Oxygen demand	CCD CCD CCD Gleason Heukelekian
8-Hydroxyquinoline sulfate $(C_9H_7NO)_2 \cdot H_2SO_4$	2834 5	Pyridine Phenol	Pale yellow, crystalline powder Slight saffron odor; burning taste Freely soluble in water	Merck 8 Merck 8 Merck 8
Hypalon	2851 8	Addition polymer	White chips Offers complete resistance to ozone, and resistance to weather, oils, solvents, chemicals, heat and abrasion.	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Icthammol	2834 621	Pyridine Ammonia	Brownish-black, syrupy liquid Characteristic empyreumatic odor; burning taste Soluble in water Incompatible with acids, alkaloids, carbonates, hydroxides, mercuric chloride.	CCD CCD CCD CCD
Imidazolines	2879	Aliphatic amine		
Induline toner	2621 100 2893	Synthetic coloring matter	Blue or black dyestuffs	Hackh's
Inert filler pigments	2851 121-127 2851 124 2851 135 2851 211 2851 352 2851 354 2851 359 2851 411 2851 511-500 2851 631-637 2851 711-700 2851 8 2851 811-857	Metal salts	Examples: Asbestine (talc) Calcium carbonate (whiting) Calcium sulfate China clay (alumino silicate) Silica and silicates Magnesius silicate (talc) Talc (Mg silicate) Magnesium oxide Amphibole asbestos "Inert" ingredients in manufactured products are not always considered inert by the toxicologist and physician. In many agricultural sprays the chief toxic ingredient is often the "inert" vehicle, e.g.,kerosens or one of the petroleum oils. Dust and powders often consist in large measure of such	Gleason

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Inert filler pigments	2851 911 3292		"inert ingredients" as hydrated lime, calcium carbonate, etc. In some liquid fumigants used in agriculture, the "inert" solvent is carbon tetrachloride.	
Inerts (including carbamate) (See also:Pigments(e.g. in eye make-up) Lead pigments (for paint) Inert filler pigments	toilet bowl clnrs. 2834 9 2842 311 2844 351 2891 171 2891 173 2891 178 2891 183 2992	Metal salts		
Iodine I	2834 6 2834 635 2841 171 2842 331 2842 332 3861 811		Bluish-black scales or plates Characteristic odor Sharp, acrid taste One gram dissolves in 2950 ml water. The solubility in water is increased by alkali bromides, but decreased by sulfates and nitrates. Insol Solutions of iodine in aq.solutions of inorganic iodides are brown to deep brown;solvents containing nitrogen atoms e.g., pyridine, dissolve iodine to form brown solutions; chloroform, carbon tetrachloride, carbon disulfide,and especially phosphorus trichloride give	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Iodine (continued)			violet solutions, as do fluorinated amines.	
			Attacks metals in the presence of moisture and slowly acts on organic tissue. Incompatible with alkaloids, starch, tannins.	Merck 8
			In humans, average doses may cause skin lesions; prolonged oral therapy may produce iodism. Ingestion of large quantities causes abdominal pain, nausea, vomiting and diarrhea. Amounts of 2 to 3 g have been fatal. Solid element is intensely irritating to eyes, skin, and mucous membranes.	Merck 8
Iodochlorohydroxy-quinoline	2834 8	Phenol Pyridine	Voluminous, spongy, brownish-yellow powder	CCD
C_9H_5ClINO			Slight characteristic odor	CCD
			Nearly insoluble in water	CCD
Iodophor(s)	2841 171 2842 311 2842 332 2844 524		Example: Wescodyne	
			Wide dilution with water is possible	Merck 8
			In humans, less irritating than iodine	Merck 8
			Wescodyne concentrate has an acute oral LD_{50} in white rats of 12 ml/kg and in guinea pigs of 15 ml/kg. It does not appear to be a primary irritant or a censitizer even in the concentrate form.	Gleason

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Irish moss	2844 4 2844 525	Carbohydrate	Yellowish-white when powdered Forms a solution in hot water Forms a gel in the presence of salts	CCD CCD CCD
Iron Fe	2891 171 2899 3 3432 3461 3641 3941	Metal	Silvery-white or gray hard, magnetic metal; in powder form, black to gray Readily oxidizes in moist air, forming "rust" Commercial iron usually contains some carbons phosphorus, silicon, sulfur, and manganese Insol	Merck 8 Merck 8 Merck 8
Iron blues	2893 2899 3	Synthetic coloring matter	Semitransparent pigment of powerful tinctorial strength; blue pigments Insoluble in water Unstable to alkalies of all concentrations or reducing media	CCD CCD CCD
Iron-nickel alloys	3641 3651	Metal		
Iron oxide(s) $Fe_2O_3 \cdot H_2O$	Foundations (cosmetic) lotions, creams 2834 617 2842 3 2844 545 2851 6	Metal oxide	Examples: Iron oxide yellows - useful for producing cream and buff-colored tints; have excellent light fastness and resistance to alkali Iron oxide reds Iron oxide, brown - reddish brown powder Insoluble in water Iron oxide, black - reddish	CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Iron oxide(s)	2851 631-637 2851 8 2851 811-857 2992 3231 3241 3269 3274 3292 3941		or bluish black amorphous powder Insoluble in water	
Iron salts	2899 37 3999 119	Metal salt	In large doses soluble iron salts are corrosive irritants	Gleason
Isoamyl acetate (See also:Amyl acetate) $CH_3COOCH_2CH_2CH(CH_3)_2$	2842 398	Aliphatic acid Alcohol	Colorless liquid Slightly soluble in water Soluble in 400 parts water In humans,exposure to 950 ppm for 1 hr has caused headache, fatigue,sub-sternal pressure, irritation of mucous membranes.	CCD CCD Merck 8 Merck 8
Isoborneol $C_{10}H_{18}O$		Alcohol	Crystals Practically insoluble in water In humans,may cause nausea, vomiting, mental confusion,dizziness,convulsions	Merck 8 Merck 8 Merck 8
Isoborneol propionate	2834 9	Alcohol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Isobornyl thiocyano-acetate, technical $C_{13}H_{19}NO_2S$	pesticide 2834 9	Thiocyanate	Yellow, oily liquid Terpene-like odor Practically insoluble in water White rats tolerated up to 0.6 ml/kg daily for 6 months Primary irritant; should not be applied near eyes or mucous membranes	Merck 8
Isobutylacetate $CH_3COOCH_2CH(CH_3)_2$	2851 9	Alcohol	Colorless liquid Soluble in 180 parts water In humans, may be mildly irritating to mucous membranes, and in high concentrations, narcotic.	Merck 8 Merck 8 Merck 8
Isobutyl alcohol $(CH_3)_2CHCH_2OH$	2851 9	Alcohol	Clear liquid Soluble in water Oxygen demand Highly flammable	CCD Heukelekian
Isobutylene (or isobutene) $CH_2{=}C(CH_3)_2$	2911 7	Addition polymer	This must be the polymer because the monomer is a gas. gas = practically insoluble in water simple asphyxiant	 CCD CCD
Isolates	2844 233 2844 363	Aldehyde Alcohol	Examples: geranial, pinene, anethole	CCD
Isooctyl phenylpoly-ethoxy ethanol	2841 171 2842 415 3999 118	Alcohol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Isophorone $C(O)CHC(CH_3)CH_2C(CH_3)_2$ CH_2	2851 9	Ketone	Practically water-white liquid Slightly soluble in water Possesses a high solvent power for vinyl resins and certain other synthetic resins, the cellulose ethers and esters, and many substances soluble with difficulty in other solvents.	CCD CCD CCD
Isopropanol (See: Isopropyl alcohol)				
Isopropyl acetate $CH_3COOCH(CH_3)_2$	2851 9 2891 179	Alcohol	Colorless liquid Soluble in 23 parts water at 27° Lethal concentration for rats in air: 32,000 ppm In humans, may be irritating to mucous membranes, and, in high concentrations narcotic. Prolonged exposure may result in liver injury. Oxygen demand	Merck 8 Merck 8 Merck 8 Merck 8 Heukelekian; Lamb
Isopropyl alcohol $(CH_3)_2CHOH$	2279 2834 617 2834 8 2834 9 2841 3 2841 5 2842 3 2842 311 2842 332	Alcohol	Colorless, clear, mobile liquid Soluble in water Oxygen demand	CCD CCD Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Isopropyl alcohol (continued)	2842 341 2842 351 2842 381 2842 394 2842 398 2842 415 2842 442 2842 465 2842 498 2844 351 2851 8 2851 811- 857 2851 863 2851 9 2851 911 2891 1 2891 179 2899 336 2899 337 2911 2911 1 2911 131 3111 3842 161 3861 811			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Isopropyl myristate $CH_3(CH_2)_{12}CO_2CH(CH_3)_2$	deods & antipers hand creams baby oil bath salts & oils creams, lotions 2834 9 2844 159 2844 341 2844 511 2844 517 2844 523 2844 561	Aliphatic acid	Colorless oil Practically odorless Insoluble in water	CCD CCD CCD
Isopropyl palmitate $(CH_3)_2CHOOCC_{15}H_{31}$	hand cream hand lotion bath salts & oil creams, lotions 2834 9 2844 159 2844 511 2844 517 2844 561	Aliphatic acid	Liquid Insoluble in water	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
N-isopropyl-N'-phenyl-p-phenylene diamine $C_3H_7NHC_6H_4NHC_6H_5$	3011	Aniline	Dark gray to black flakes Insoluble in water	CCD CCD
Ivory black	3941		An animal black produced from ivory	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Jamaica rum (See:Rum,Jamaica)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Kerohydric (See also: Lanolin)	hair preps	Alcohol Aliphatic acid		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Kaolin	2621 100 2842 3 2842 341 2844 411 2844 522 2844 541 2844 543 2844 598 2891 171 2891 179 2891 183 3269 3952	Metal salt	White to yellowish or grayish fine powder Becomes darker and develops clay odor when moistened Earthy taste Insoluble in water	CCD CCD CCD CCD
Kerosene (Kerosine)	2834 9 2841 115 2841 175 2841 553 2842 3 2842 331 2842 341 2842 393 2842 398 2842 411 2842 415 2842 498 2851 6 2851 611 2851 613 2851 8 2851 811-857	Aliphatic hydrocarbon	Oxygen demand	Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Kerosene (Kerosine) (continued)	2851 898 2851 9 2851 911 2891 1 2911 2911 1 2911 131 2992 3941			
Ketones	2256 2511 2821 2842 411 2842 465 2844 531 2851 9 2851 911 2891 1 2891 171 2891 179 2893 3069 864	Ketone		
Kodak anti-fog	3861 811	Aniline		
Kodalk Kodalk balanced alkali				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lacquer	2511 2842 498 2911 7 3943	Alcohol Ketone Aromatic hydrocarbon Aliphatic acid		
Lactic acid $CH_3CHOHCOOH$	creams, lotions 2051 2834 5 2842 332 2842 393 2844 519 3842 161	Aliphatic acid	Colorless or yellowish, hygroscopic syrupy liquid Odorless Miscible with water When concentrated above 50% it is partially converted to lactic anhydride Oxygen demand	CCD CCD CCD CCD Heukelekian
Lactol spirits (See:Naphtyl lactate)				
Lactose $C_{12}H_{22}O_{11}\cdot H_2O$	2087 2834 5 2899 3	Carbohydrate	White, hard crystalline mass, or white powder Odorless Soluble in water Oxygen demand	CCD Heukelekian
Lake pigments	2844 521 2844 531 3955 03	Synthetic coloring matter	Characterized generally by a bright color and a more or less pronounced translucency when made into an oil paint.	CCD
Lampblack	2844 523 2899 3 2899 37		A black or gray pigment Properties are markedly different from carbon black	CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lanolin and lanolin derivatives	2834 351 2834 6 2834 8 2834 9 2842 442 2842 444 2844 311 2844 341 2844 363 2844 511 2844 512 2844 513 2844 514 2844 515 2844 517 2844 518 2844 519 2844 521 2844 522 2844 523 2844 533 2844 545 2844 561	Alcohol Aliphatic acid	Yellowish-white unctuous mass Slight odor Practically insoluble in water In humans, occasionally sensitization may occur Anhydrous lanolin is a yellowish, tenacious, semisolid fat: Slight odor or practically odorless. Practically insoluble in, but mixes with about twice its weight of water, without separation.	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Lanolin alcohols	2844 513		Same as lanolin	
Lard	creams lotions 2844 133 2844 513 3842 161	Aliphatic acid Alcohol	Soft, white unctuous mass Faint odor Bland taste Insoluble in water	CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Latex	2073 2299 2514 2522 3069 8 3999 3	Addition polymer	Milk-like fluid having particles of natural or synthetic rubber or plastic suspended in water. About 60% water, 35% rubber, and 5% other materials.	CCD
"Lathanol" LAL	tooth-powder 2844 431	Aliphatic acid Alcohol	White, dry powder Sweet, pleasant odor; practically tasteless pH 6.9-7.1 in 0.25% water solution; stable to hard water; solubility in water solution 1% at 25°C, 25% at 100°C; hygroscopicty appreciable Biodegradable organic detergent; prolific foamer	CCD CCD CCD CCD
Laundry starch (See:Starch)				
Lauric acid $CH_3(CH_2)_{10}COOH$	hair preps 2851 631 2851 638	Aliphatic acid	White, crystalline powder Slight odor of oil bay Insoluble in water In humans, a mild irritant but not a sensitizer. Animal experiments suggests low toxicity.	
Lauric monoethanol amide	2841 3			
Lauryl diethanolamide	2842 411	Aliphatic acid Aliphatic amine		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lauryl methacrylate $CH_2:C(CH_3)COO(CH_2)_{11}CH_3$	2842 381	Aliphatic acid Alcohol		
Lavender, oil of		Alcohol	Colorless or yellow liquid Slightly soluble in water	Merck 8 Merck 8
Lead Pb	hair preps 2851 135 2851 3 2851 365-367 2851 6 2851 8 2851 811-857 2851 931 2092 3251 3352 3432 3461 3496 012 3651 3652 3931 3952 3961	Metal	Bluish-white, silvery, gray metal Tarnishes upon exposure to air;attacked by pure water; weak organic acids in the presence of oxygen.Resistant to tap water,hydrofluoric acid,brine, solvents. Insoluble in water In humans,acute poisoning is most common in young children with history of pica;anorexia,vomiting,malaise,convulsions due to increased intracranial pressure;may leave permanent brain damage. In chronic poisoning children show weight loss,weakness,anemia.Lead poisoning in adults is usually occupational due mainly to inhalation of lead dust or fumes. Wristdrop and colic rarely occur;more often there are vague G.I. and CNS complaints. The amount of lead contained in coca-cola packed in bottle and tin-coated cans was determined as 0.0067 ppm lead in bottles and 0.0072 ppm lead in cans.	Merck 8 Merck 8 Hackh's Merck 8 CA 71,11913s

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lead (continued)			Thus, the metal of the tin-coated cans yields practically no lead to the beverage. Toxicity	 III-B
Lead acetate $Pb(C_2H_3O_2)_2 \cdot 3H_2O$	2844 351 2851 511	Metal salt	Colorless crystals or white granules or powder Slight acetic odor Takes up CO_2 from the air and becomes incompletely soluble. One gram dissolves in 1.6 ml water, 0.5 ml boiling water. LD_{50} i.p. in rats: 150 mg/kg. Poisonous, avoid breathing dust; keep away from feed or food products. Incompatible with acids, soluble sulfates citrates, tartrates, chlorides, carbonates, alkalies, tannin, phosphates, resorcinol, salicylic acid, phenol, chloral hydrate, sulfites, vegetable infusions, tinctures. Toxicity	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 III-B
Lead carbonate, basic $2PbCO_3 \cdot Pb(OH)_2$	2851 121 2851 613 3352 3952	Metal salt	White, amorphous powder Insoluble in water Poisonous	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lead chromate $PbCrO_4$	2851 613 3952	Metal salt	Yellow or orange-yellow powder One of the most insoluble salts - one l water dissolving only 0.2 mg LD_{50} i.p. in guinea pigs: 400 mg/kg	Merck 8 Merck 8 Merck 8
Lead maleate,tribasic	2851 8 2851 811-857	Metal salt	Soft, yellowish white crystalline powder	CCD
Lead monoxide (See:Litharge)				
Lead naphthenate	2893 2992	Metal salt	Soft, yellow, resinous,semi-transparent material Gives deposits in highly acid oils, but not when mixed with suitable quantities of cobalt or manganese	CCD CCD
Lead monoxide (Litharge) PbO	2851 613	Metal oxide	Yellow to yellowish-red,heavy powder or minute crystalline scales. Insoluble in water LD_{50} i.p. in rats: 400 mg/kg Poisonous.Avoid breathing dust.Wash thoroughly before eating or smoking. Keep away from feed and food products. Human toxicity - See: Lead	Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lead nitrate $Pb(NO_3)_2$	2899 3 3861 811	Metal salt	White or colorless translucent crystals One gram dissolves in 2 ml cold, 0.75 ml boiling water The aq. solution is slightly acid. pH of 20% aq. solution at 25° = 3.0 - 4.0 Poisonous. Human toxicity - See: Lead	Merck 8 Merck 8 Merck 8 Merck 8
Lead oxide, red Pb_3O_4	2851 613 3231 3641	Metal oxide	Bright red powder Insoluble in water Harmful dust	CCD CCD CCD
Lead pigments (for paint)	2851 121-127 2851 352-359 2851 611 2851 613 2851 631-637	Metal salt and oxide		
Lead stearate $Pb(C_{18}H_{35}O_2)_2$	3652	Metal salt	White powder Slightly soluble in water	CCD CCD
Lecithin $CH_2(R)CH(R')CH_2OPO(OH)O(CH_2)_2N(OH)(CH_3)_3$	2844 523 2844 545	Aliphatic acid Aliphatic amine	Commercial lecithin is light brown to brown, viscous semiliquid Characteristic odor Partly soluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lemongrass oil	2834 9	Aldehyde Ketone Alcohol	East Indian oil: Dark yellow to light brown red Pronounced heavy lemon-like odor West Indian oil: Light yellow to light brown or orange Lemon-like odor is of lighter character than East Indian oil	CCD CCD CCD CCD
Lidocaine hydrochloride $C_6H_3(CH_3)_2NHCOCH_2N(C_2H_5)_2$	2834 613	Aniline		
Lignin $C_6H_3(OH)(OCH_3)CH:CHCH_2OH$	2653	Phenol Alcohol	Insoluble No oxygen demand	Heukelekian
Lime	2086 2841 115 2842 332 2851 8 2899 3 3111 3231 3241 3269 3274 3292 3652	Metal oxide Inorganic base		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lime, hydrated (See:Calcium hydroxide)				
Lime, slaked (See:Calcium hydroxide)				
Limestone (See also:Calcium carbonate) $CaCO_3$	2952 2 2891 178 3652	Metal salt		
Lime water	2844 598	Inorganic base	Clear, colorless, alkaline aqueous solution of calcium hydroxide Odorless Absorbs carbon dioxide from air	CCD CCD CCD
Lindane $C_6H_6Cl_6$	pesticide 2834 9	Halogenated hydrocarbon	White, crystalline powder Slight musty odor Practically insoluble in water May be fatal if swallowed. May be absorbed through skin. Toxicity	CCD CCD CCD III-B
Linseed alkyd resin	2851 121-127	Condensation polymer		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Linseed oil	2844 133 2851 121-127 2851 131 2851 857 2891 179 2893 2893 03 3111 3952	Aliphatic acid	Golden-yellow amber or brown oil Peculiar odor; bland taste Thickens and hardens on exposure to air darkening and acquiring a pronounced taste	CCD
Litharge PbO	2851 613 2891 179	Metal oxide	Yellow to reddish crystals Insoluble in water Harmful dust	CCD
Lithium oxide Li_2O	3231 3641	Inorganic base	Finely divided powder or crusty material Readily absorbs carbon dioxide and water from the atmosphere In humans, may injure kidneys, especially if sodium intake is limited.	Merck 8 Merck 8
Lithopone	2851 352-359 2851 411-400 2851 334 2851 411 2891 179 3941 3949 2	Metal salt Sulfur compound	White powder	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Lubricating oils	2298 2841 175 2899 336 2899 337 2911 7 3079 65	Aliphatic hydrocarbon	Acute ingestion toxicity of lubricating oils is believed to be low. Inhalation of dense oils may lead to lipoid pneumonia. Frequent and prolonged skin contact may produce acneform lesions; occasionally dermatitis due to hypersensitivity occurs. Chronic skin contact has resulted rarely in carcinoma. Under special circumstances oil additives may have toxicological significance.	Gleason

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Magnesia (See:Magnesium oxide)				
Magnesium Mg	2899 3 3269 3522 7 3651	Metal	Silvery-white metal Slowly oxidizes in moist air Reacts very slowly with water at ordinary temp, less slowly at 100° Combines directly with nitrogen, sulfur, the halogens, phosphorus, and arsenic In humans, particles embedded in skin can produce gaseous blebs with a protracted course. Inhalation of dust is irritating; fumes can cause metal fume fever.	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Magnesium bicarbonate	2072	Metal salt		
Magnesium carbonate $(MgCO_3)_4 \cdot Mg(OH) \cdot 5H_2O$	2011-2099 2079 2087 2834 9 2842 3 2844 4 2844 411 2844 541 2844 543 2844 545 2844 598 3269 3952	Metal salt	White,bulky powder or light friable masses Soluble in about 3300 parts CO_2-free water; more soluble in water containing CO_2 Imparts slight alkaline reaction to water	Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Magnesium fluorosilicate $MgSiF_6$	2426	Fluorine compound Metal salt	White powder	Hackh's
Magnesium hydroxide $Mg(OH)_2$	tooth-paste 2072 2844 411 2844 498	Inorganic base	White amorphous powder Insoluble in water (1:80,000) Imparts slight alkaline reaction to water; absorbs CO_2 in presence of water Human toxicity - See:Magnesium oxide	Merck 8 Merck 8 Merck 8 Merck 8
Magnesium oleate $Mg(C_{18}H_{33}O_2)_2$	2844 545	Metal salt	Yellowish powder or mass Insoluble in water	Merck 8 Merck 8
Magnesium oxide MgO	deods & antipers 2844 4 2844 498 2844 519 2851 511 2891 183 3069 3231 3241 3274 3292	Metal oxide	White, very fine powder Odorless Very slightly soluble in pure water; solubility increased by CO_2 Combines with water to form magnesium hydroxide. Imparts a slight alkaline reaction to water Takes up CO_2 and H_2O from the air In humans, large doses employed as antacid may produce undesirable catharsis. In presence of renal insufficiency accumulation of magnesium in circulation may cause CNS depression.	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Magnesium phosphate, tribasic $Mg_3(PO_4)_2 \cdot 5H_2O$	2044 4	Metal salt	White crystalline powder Insoluble in water	Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Magnesium silicate $Mg_2Si_3O_8 \cdot 5H_2O$	2011-2099 tooth-paste 2844 411 2891 183	Metal salt	In humans, large doses may cause laxation	Merck 8
Magnesium stearate $Mg(C_{18}H_{35}O_2)_2$	2011-2099 2844 514 2844 543 3941 3999 117 3999 119	Metal salt	Soft, white light powder Odorless; tasteless Insoluble in water	CCD CCD CCD
Magnesium sulfate $MgSO_4$	denture clnrs 2842 3 2844 451 3941	Metal salt	White powder Soluble in water	Hackh's Hackh's
Magnetite (See also: Iron oxide, black) Fe_3O_4	3269	Metal oxide	Black mineral, black streak	CCD
Maleic-rosin ester	2511	Addition polymer		
Malic acid HOCHCOOH CH_2COOH	2111 tooth-paste	Aliphatic acid	Naturally occurring l-form: crystals Freely soluble in water	Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Manganese Mn	3432 3641 3231	Metal	Steel-gray,lustrous,hard,brittle metal Decomposes water slowly in the cold, rapidly on heating;pure electrolytic Mn is not attacked by water at ordinary temp. Converted by fluorine into the di- and the trifluoride, by chlorine into the dichloride In humans, toxicity results from inhalation of the fumes. Symptoms are lanquor, sleepiness,weakness,emotional disturbances,spastic gait,paralysis resembling parkinsonism.	Merck 8 Merck 8 Merck 8 Merck 8
Manganese dioxide MnO_2	2911 3241 3692	Metal oxide	Black crystals or amorphous powder Insoluble in water	CCD CCD
Manganese naphthenate	2893 03	Metal salt	Hard, brown resinous mass Hardens on exposure to air	CCD CCD
Manganese sulfate $MnSO_4 \cdot H_2O$	2844 351 3941	Metal salt	Pale red,slightly efflorescent crystals Soluble in about 1 part cold, 0.6 parts boiling water	Merck 8 Merck 8
Manila gum copal (Manila resin)	2891 1	Aliphatic acid	Pebble-like pieces of a pale brownish color Insoluble in water	CCD CCD
Marble (See:Lime)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Mazein/TEG	2893			
MBTS (See:2,2-Dithiobisbenzo-thiazole)				
Melamine resins (Melamine-formaldehyde resins)	2295 2299 2621 2851 6 3079 3111 3941	Condensation polymer	Lower molecular weight uncured melamine resins are water soluble syrups. Higher molecular weight materials are less soluble or insoluble and are usually available as powders. These are often easily dispersible in water.	CCD CCD
Menthol $C_{10}H_{20}O$	mouthwasl deods & antip lotions, creams foot preps 2111 2834 6 2834 611 2834 631 2834 635 2834 9 2844 156 2844 133 2844 321 2844 4 2844 513 2844 519 3842 161	Alcohol	Crystals or granules; white crystals Peppermint odor and taste Slightly soluble in water In humans, may act as a mild irritant LD s.c. in rats: 2.0 g/kg Incompatible with butylchloral hydrate, camphor, phenol, chloral hydrate, Exalgine, betanaphthol, resorcinol or thymol in triturations, potassium permanganate, chromium trioxide, pyrogallol.	Merck 8; CCD Merck 8 Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
2-Mercaptobenzothiazole $CHCHCHCHCCSC(SH)N$	2834 9 2841 3 3069 3069 8	Sulfur compound	Yellowish powder Slight odor (depends on degree of purification) Insoluble in water Non toxic	CCD CCD CCD CCD
2-Mercaptoimidazoline $CH_2CH_2NC(SH)NH$	3069	Sulfur compound	White powder	CCD
Mercuric benzoate $Hg(C_7H_5O_2)_2 \cdot H_2)$	2842 393		White crystals Slightly soluble in water Poisonous	CCD CCD CCD
Mercuric chloride $HgCl_2$	creams, lotions 2834 6 2842 393 3692 3861 811	Metal salt	White crystals or powder Odorless Soluble in water Very poisonous;may be fatal if swallowed; do not breath dust	CCD CCD CCD CCD
Mercuric chloride,ammoniated (See:Mercury,ammoniated)				
Mercuric oleate (mercury oleate) $Hg(C_{18}H_{33}O_2)_2$	2834 8	Metal salt	Yellowish to red liquid,semi-solid or solid mass Insoluble in water Poisonous	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Mercuric oxide HgO	creams lotions 2834 291 2834 6 2851 613 2891 183 3692 3952	Metal oxide	Heavy, bright orange-red powder Slightly soluble in water, more so after boiling Very poisonous	CCD CCD CCD
Mercuric salicylate $Hg(C_7H_5O_3)_2$	2842 393	Metal salt	White powder, yellow or pink tinge Odorless; tasteless Almost insoluble in water Poisonous	CCD CCD CCD CCD
Mercuric sulfide, red HgS	3952	Metal salt Sulfur compound	Bright scarlet-red powder or lumps; blackens on exposure to light, particularly in presence of water or alkali hydroxides Practically insoluble in water Human toxicity - See:Mercury	Merck 8 Merck 8
o-Mercuronitrophenol (See:Mercurophen)				
Mercurophen $C_6H_4HgNNaO_4$	2834 8 2842 393	Phenol Metal salt	Brick-red powder Odorless Soluble in hot water. Solutions are deep amber in color Poison. Maximum tolerated dose i.v. in rats: 8.0 mg/kg; in rats 12.0 mg/kg; i.v. in rabbits 4.0 mg/kg Human toxicity - See:Mercury	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Mercurous chloride Hg_2Cl_2	creams, lotions 2834 6		White, rhombic crystals or crystalline powder Odorless Insoluble in water Stable in air, but darkens on exposure to light. Decomposed by alkalies Poisonous if taken internally in quantity.	CCD CCD CCD CCD CCD
Mercury Hg	2834 8 3231 5 3641 3692	Metal	Silvery, liquid metallic element; silver white liquid metal Insoluble in water; Insoluble in and not attacked by water Cumulative poison; in humans, readily absorbed through respiratory tract, intact skin, and G.I. tract, although occasional incidental swallowing of mercury is without harm. Spilled and heated mercury is particularly hazardous. Acute poisoning can cause death usually within 10 days; chronic poisoning causes inflammation of mouth and gums, kidney damage, muscle tremors, etc.	CCD; Merck 8 CCD; Merck 8 CCD; Merck 8
Mercury ammoniated $HgNH_2Cl$	lotions, creams preps, parasitic 2834 6 2834 8	Metal salt	White, pulverulent lumps or powder Odorless; earthy, metallic taste Insoluble in water Stable in air; darkens on exposure to light Poisonous	CCD CCD CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Mercury compounds (used in paints)	2851 121-127 2851 128 2851 211 2851 611 2851 613 2851 618	Metal salts	Examples: phenyl mercury, oleate, phenyl mercury acetate, phenyl mercury succinate, mercuric oxides, mercury soap	
Mercury oleate (See:Mercuric oleate)				
Metallic pigments	2851 131 2851 631-637 2851 811-857	Metals	Examples: Al, Cu, Cu alloys (Cu-Al, Cu-Sb, Cu-Zn)	
Metals, laminated	2591	Metal		
Metaphen (See:Nitromersol)				
Metazene	2842 381			
Methanol CH_3OH	2842 311 2842 398 2842 411 2844 4 2851 135 2851 3 2851 365-367	Alcohol	Mobile liquid; clear, colorless Slight alcoholic odor when pure; crude material may have a repulsive, pungent odor Miscible with water; soluble in water Forms azeotropes with many compounds In humans, poisoning may occur from ingestion, inhalation, or percutaneous	Merck 8;CCD Merck 8 Merck 8;CCD Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Methanol (continued)	2851 863 2851 898 2851 9 2851 911 2851 931 2891 1 2891 171 2891 19 2899 336 2899 337 2911 2911 131 3111 3141 3861 811		absorption. Acute: headache, fatigue, nausea, visual impairment or complete blindness (may be permanent), acidosis, convulsions, mydriasis, circulatory collapse, respiratory failure, death. Death from ingestion of 30 ml has been reported. Usual fatal dose 100 to 250 ml. Chronic: visual impairment. Poisonous; may be fatal or cause blindness when swallowed; cannot be made nonpoisonous. Oxygen demand	CCD Heukelekian; Lamb
Methoxychlor $Cl_3CCH(C_6H_4OCH_3)_2$	2834 9 2842 381 2842 393	Halogenated hydrocarbon	White, crystalline solid Insoluble in water Less toxic than DDT to higher animals Not compatible with alkaline materials	CCD CCD CCD CCD
Methyl acetate $CH_3CO_2CH_3$	2851 9 2891 171 2891 179	Alcohol	Volatile, flammable liquid Colorless; fragrant odor Partially soluble in water	CCD CCD CCD
Methyl alcohol (See:Methanol)				
p-Methylaminophenol (N-Methyl p-aminophenol) $CH_3NHC_6H_4OH$	2844 351 3861 811	Phenol Aniline	Colorless needles Soluble in water Poisonous	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
N-methyl-p-aminophenol sulfate $HOC_6H_4NHCH_3 \cdot 1/2H_2SO_4$	3861 811	Phenol Alcohol	Colorless needles Soluble in water	CCD CCD
Methyl amyl alcohol $(CH_3)_2CHCH_2CH(CH_3)OH$	2851 9 2851 911	Alcohol	Colorless, stable liquid Miscible with water	CCD
Methyl anthranilate $H_2NC_6H_4CO_2CH_3$	2086 2844 515	Aromatic acid Aniline	Colorless to pale-yellow liquid with bluish fluorescence Grape-type odor Slightly soluble in water	CCD CCD
p-Methylbenzoic acid (See:p-Toluic acid)				
Methyl bromide CH_3Br	3999 119	Halogenated hydrocarbon	Colorless, transparent, easily liquefied gas, or volatile liquid Chloroform-like odor; burning taste Forms a voluminous crystalline hydrate with cold water Poisonous; causes burns; vapor extremely hazardous Too volatile to be in water	CCD CCD CCD CCD
Methyl cellulose (and methylcellulose gum)	hair preps 2844 4 2844 523 2851 863 2891 171 2891 179	Carbohydrate	Grayish white,fibrous powder;white granules Swells in water and produces a clear to opalescent, viscous, colloidal solution Soluble in cold water, insoluble in hot water	CCD;Merck 8 CCD Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Methyl cellulose (and methyl cellulose gum) (continued)	3941 3952		Presence of inorganic salts increases the viscosity Aqueous suspensions neutral to litmus In humans, may cause complete intestinal obstruction Oxygen demand	Merck 8 CCD Merck 8 Heukelekian
Methyl chloroform (See:1,1,1-Trichloroethane)		(Halogenated hydrocarbon)		
Methylenebis[4-chlorophenol] (See:Dichlorophenene)				
Methylene-bis(4-methyl-6-tertiary-butyl phenol)	2891 171 2891 173 3069 8	Phenol		
Methylenebis(trichlorophenol) (See:Hexachlorophene)				
Methylene chloride CH_2Cl_2	2072 2842 321 2842 341 2842 381 2842 393 2842 398 2851 613 2851 863 2651 9 2891 1 2899 337	Halogenated hydrocarbon	Colorless liquid Soluble in about 50 parts water MLD orally in dogs: 3000 mg/kg In humans, narcotic in high concentration Toxicity	Merck 8 Merck 8 Merck 8 Merck 8 III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Methyl ethyl Ketone (See:Ketones)		(Ketone)		
Methyl p-hydroxy benzoate $C_8H_8O_3$	toothpaste deods - antipers creams, lotions bath salts & oils baby cream lotion 2834 617 2844 411 2844 511 2844 514 2844 519 2844 523 2844 545 2844 561	Phenol Aromatic acid	White needles; colorless crystals or white crystalline powder Odorless or faint, characteristic odors slight burning taste One gram dissolves in 400 ml water Almost insoluble in water	Merck 8;CCD CCD Merck 8 CCD
Methyl isobutyl Ketone $(CH_3)_2CHCH_2COCH_3$	2851 9 2891 179	Ketone	Colorless, stable liquid Pleasant odor Slightly soluble in water Oxygen demand	CCD CCD CCD Lamb
Methylmethacrylate $CH_2:C(CH_3)COOCH_3$	2844 531 2851 6 3652 3843	Aliphatic acid	Colorless, mobile, volatile liquid Slightly soluble in water May cause skin irritation	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Methyl nonyl Ketone $CH_3COC_9H_{19}$	dog/cat repellent 2834 9	Ketone	Oily liquid Strong odor	CCD CCD
Methylparaben (See:Methyl p-Hydroxy-benzoate)				
Methyl polysiloxane	2842 3 2842 465	Addition polymer		
Methyocel 65 Hg (4000 c.p.s.)	2844 524			
N-methylol dialkyl phosphano propionamide	2261	Aliphatic amine		
Methyl salicylate $C_6H_4OHCOOCH_3$	2086 2834 6 2834 631 2834 635 2842 331 2842 332 2842 415 2891 1 3842 161 3949 2 toothpaste tooth par mouthwash lotions, creams,cleaners, root preps 2844 4 2844 498	Phenol Aromatic acid	Colorless, yellowish or reddish, oily liquid Odor of wintergreen; odor and taste of gaultheria Sparingly soluble in water LD orally in rabbits: 2.8 g/kg	CCD;Merck 8 CCD;Merck 8 CCD;Merck 8 Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Methyl violet (gentian violet) $[(CH_3)_2NC_6H_4]_2C{:}C_6H_4{:}N(CH_3)_2Cl$	2834 5 2834 8 2893 3952	Synthetic coloring matter	Gentian violet: Dark green powder or cyrstals with metallic luster Soluble in water No oxygen demand	CCD CCD Heukelekian
Mica (Muscovite; phlogopite) $KAl_2(ALSi_3O_{10})(OH)_2$	2851 8 2899 3 2911 7 3269 3641 3651 3941 3999 117	Metal salt	Muscovite: Colorless, yellowish, brownish, or reddish; luster vitreous to silky or pearly	CCD
Migrosine	3952	Synthetic coloring matter		
Mineral oil	2621 100 2834 6 2834 9 2842 398 2842 411 2842 415 2842 465 2844 133 2844 3 2844 341 2844 411 2844 511 2844 512	Aliphatic hydrocarbon		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Mineral oil (continued)	2844 513 2844 514 2844 515 2844 516 2844 517 2844 519 2844 522 2844 523 2844 543 2893 2893 08 2911 1 2911 7 2992 3941 3955 03			
Mineral spirits (Petroleum spirits;ligroin)	cleaners 2842 393 2842 4 2842 415 2842 423 2842 444 2842 465 2842 498 2851 121-127 2851 131 2851 135 2851 139 2851 137-371	Aliphatic hydrocarbon	In humans, has a defatting action on skin causing irritation. Inhalation causes headache, coma.	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Mineral spirits (cont.)	2851 300-381 2851 6 2851 631 2851 638 2851 8 2851 857 2851 863 2851 9 2851 911 2861 2891 1 2911 3141			
Mint	2842 498			
Molasses, blackstrap	2891 179	Carbohydrate		
Molecular sieves		Metal salts		
Molybdenum Mo	2911 7 3641 3651	Metal	Dark-gray or black powder with metallic luster or coherent mass of silver-white color Not attacked by water Attacked by fluorine at ordinary temp. In humans, limited data suggest low order of toxicity	Merck 8 Merck 8 Merck 8 Merck 8
Monobenzone $C_6H_5CH_2OC_6H_4OH$	2834 6	Phenol	White, crystalline powder Odorless; little taste Insoluble in water	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Monobromobenzene (See:Bromobenzene)				
Monocalcium phosphate (See:Calcium phosphate monobasic)				
Monoethanolamine (See:Ethanolamine)				
Monoglyceride(s) (See also:Glyceride) $RCOOCH_2CHOHCH_2OH$	deods & antipers creams, lotions 2011-2099	Aliphatic acid	Examples: glycerol monostearate, glycerol monolaurate, etc.	CCD
Monoglyceryl-p-aminobenzoate (See:Glyceryl-p-amino-benzoate)				
Morpholine $\overline{OCH_2CH_2NHCH_2CH_2}$	2821 2842 3 2842 411 2842 423 2842 498 2051 9 2851 911	Pyridine	Colorless, mobile, hygroscopic liquid Characteristic amine-like odor Miscible with water Causes eye burns; may cause skin irritation; absorption through skin harmful Oxygen demand	CCD CCD CCD CCD Heukelekian, Lamb
Muscovite (See:Mica)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Styrene $C_6H_5CH:CH_2$	2621 t.bowl clnrs 3079 65	Aromatic hydrocarbon	Colorless to yellowish,very refractive, oily liquid Penetrating odor Sparingly soluble in water On exposure to light and air it slowly undergoes polymerization and oxidation with formation of peroxides, etc. Lethal concentration for rats in air: 2000 ppm In humans, may be irritating to eyes, mucous membranes, and, in high concentrations, narcotic	Merck 8 Merck 8 Merck 8 Merck 8 Merck 8 Merck 8
Styrene-butadiene rubber	2299 2621 2851 211 2851 411 2891 171 2891 173 3069 3141	Addition polymer	Physical appearance and properties similar to natural gum rubber.Material is white at first but quickly turns brown due to slight oxidation	CCD
Sugar (Sucrose,Saccharose) $C_{12}H_{22}O_{11}$	2073 2086 2131 2841 115 2844 519 2891 1 2899 3	Carbohydrate	Hard,white dry crystals,lumps,or powder Odorless; sweet taste Soluble in water Solutions are neutral to litmus Oxygen demand	CCD CCD CCD CCD Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sulfamic acid $HSO_3 \cdot NH_2$	Hair preps t.bowl clnrs 2841 175 2841 179 2899 337	Mineral acid	White crystals Soluble in water;soluble in 6.5 parts water at 0° in about 2 parts water at 80°. Sulfuric acid decreases its solubility in water Stable when dry but in solution it slowly hydrolyzes forming ammonium bisulfate MLD orally in rats: 1.6 g/kg In humans, moderately irritating to skin, mucous membranes	Hackh's Hackh's; Merck 8 Merck 8 Merck 8 Merck 8
Sulfates (See:Esters) Hardwood dimensions 2426 & flooring mills				
Sulfite acid liquor	2891 183	Mineral acid		
Sulfonamide formaldehyde resin	2844 531	Addition polymer		
Sulfonated oil	Bath salts 2842 396 2842 411 2842 465	Mineral acid Alcohol	Soluble (emulsifiable) in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sulfur S	foot prep hair prep 2821 2834 8 2834 9 2879 2899 3 3011 3069 3069 8 3432 3641 3941 3952 3999 3 2834 617	Non-metallic element	Rhombic: Amber-colored crystals Monoclinic: Light yellow, opaque, brittle, needle-like crystals Insoluble in water In humans, low toxicity. May cause irritation of skin, mucous membranes. Injury to lungs reported - from prolonged inhalation of dust.	Merck 8 Merck 8 Merck 8 Merck 8
Sulfur dioxide SO_2	2653 2834 332 3952	Mineral acid	Colorless gas or liquid Sharp, pungent odor Soluble in water Extremely irritating gas or liquid	CCD CCD CCD CCD
Sulfur trioxide SO_3	3241	Mineral acid	Appears in three solid modifications, α-, β-, and γ-, which sublime easily Combines with water, forming sulfuric acid and evolving a large amount of heat Will produce severe burns	CCD CCD CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Sulfuric acid H_2SO_4	2841 115 2842 3 2842 331 2842 498 3111 3861 811 3999 111	Mineral acid	Clear colorless,oily liquid Odorless Very great affinity for water,abstracting it from the air and also from many organic substances Miscible with water In humans,corrosive to all body tissues. Inhalation of concentrated vapor may cause serious lung damage.Contact with eyes may result in total loss of vision; skin contact may produce severe necrosis;ingestion,severe injury and death.	Merck 8 Merck 8 Merck 8 Merck 8
Sulfurous acid (See:Sulfur dioxide) H_2SO_3				
Sulfite liquor,waste	2891 183	Mineral acid		
Surface active agents (See:Detergents)				
Surfactants (See:Surface active agents) Synthetic perfumes and oils	 deods 2844 341 2844 533 2844 543		 Examples: Butyl stearate,ethyl oleate, ethyl stearate	

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Talc $Mg_3Si_4O_{10}(OH)_2$	2841 115 2842 331 2842 465 2844 159 2844 514 2844 519 2844 522 2844 523 2844 541 2844 543 2844 545 2844 598 2911 7 3941 3952 3999 117	Metal oxide	Colors: white, apple green, gray	CCD
Tall oil	2842 3 2899 337			
Tallow	2842 465 2844 133	Aliphatic acid		
Tallow soap, pure	2844 411			
Tannic acid or tannin $C_{76}H_{52}O_{46}$	2844 515 2893 2899 37 3111 3941	Aromatic acid	Yellowish white to light brown Faint characteristic odor Gradually darkens on exposure to air and light One gram dissolves in 0.35 ml water LD_{100} orally in mice 6.0 g/kg.	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Tannic acid or tannin (continued)			Essentially non toxic, causes drying and discoloration of skin when applied locally. Oxygen demand	 Heukelekian
Tar	2834 617 2834 9 2844 31 2844 321 2844 341	Aliphatic hydrocarbon Aromatic hydrocarbon	Dark colored bituminous substance Tarry odor Insoluble in water	CCD
Tartar, cream of (See:Potassium bitartrate)				
Tartaric acid $HOOC(CHOH)_2COOH$	2086 2834 5 2841 175 2844 561 2899 3 2899 37 3941	Aliphatic acid	Colorless transparent crystal . or white powder Odorless Soluble in water Oxygen demand	CCD Heukelekian
TDE $(ClC_6H_4)_2CHCHCl_2$	2834 9 2842 332	Halogenated hydrocarbon	Colorless crystals Insoluble in water Harmful if swallowed or absorbed through skin	CCD
Teflon (See:Poly tetrafluoro-ethylene)				
TEG	2893	Alcohol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Terephthalic acid $C_6H_4(COOH)_2$	2399 08	Aromatic acid	White crystals or powder Insoluble in water	CCD
Tergitol	2842 498	Alcohol		
Terpenes, volatile $C_{10}H_{16}$	2834 9 2842 3 2842 444 2851 9 2992	Aliphatic hydrocarbons		
Terpineol $C_{10}H_{17}OH$	2842 396	Alcohol	Colorless liquid or crystals Lilac odor Slightly soluble in water	CCD
Tertiary amyl phenol $C_{11}H_{16}O$	2842 332	Phenol	Insoluble in water Toxicity similar to phenol, but less severe	Merck 8
Tetrabromo-o-cresol $C_7H_4Br_4O$	2842 393	Phenol	White to buff, crystalline powder Practically insoluble in water Irritating to skin and mucous membranes	Merck 8
Tetracaine $CH_3(CH_2)_3NHC_6H_4COOCH_2CH_2N(CH_3)_2$	2834 613	Aliphatic amine Aromatic acid	White or light yellow, waxy solid Very slightly soluble in water	CCD
Tetracalcium alumino-ferrite	3241	Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Tetrachloroethane $C_2H_2Cl_4$	2842 393	Halogenated hydrocarbon hy	Heavy, mobile liquid Sweetish, suffocating chloroform-like odor Very sparingly soluble in water Considered to be the most toxic of the common chlorinated hydrocarbons. For specific symptoms, see Carbon tetrachloride.	Merck 8
2,3,4,6-Tetrachlorophenol C_6HCl_4OH	2294 2842 393	Phenol	Brown flakes Characteristic, strong odor Harmful dust	CCD
Tetraethyl lead $Pb(C_2H_5)_4$	2911 1 2911 131	Organometallic compound	Colorless, oily liquid Pleasant characteristic odor Insoluble in water Fairly strong poison, absorbed through skin	CCD
Tetrahydrofuran $CH_2CH_2CH_2CH_2O$	2851 9	Alcohol	Water-white liquid Ethereal odor Soluble in water	CCD
Tetrahydrofurfural acetate $C_4H_7OCH_2OOCCH_3$	2844 521	Alcohol	Colorless liquid Soluble in water	CCD
Tetrahydrofurfural alcohol $C_4H_7OCH_2OH$	2899 337	Alcohol	Water-white liquid Mild odor	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Tetrakis hydroxymethyl phosphnium chloride $(HOCH_2)_4PCl$	2261	Addition polymer		
Tetramethylthiurame disulfide (See:Thiram)				
Tetrapotassium pyrophosphate (See:Potassium pyrophosphate)				
Tetra sodium pyrophosphate $Na_4P_2O_7$	2042 331 2841 3 2841 5 2841 553 2842 332 2842 341 3861 811 hair prep t.bowl cleaners	Mineral acid	Crystals Solubility in water at 0° = 2.6 g/100 ml	Merck 8
Tetha sodium pyrophosphate acid	2051			

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Theobromo oil	2834 5 2834 6 2844 513 2844 521 2844 522 2844 523 2844 539	Aliphatic acid	Yellowish-white brittle solid Chocolate-like odor Insoluble in water	CCD
Thickeners	2844 341 2844 351 2844 512 2844 515 2844 519 2893 08			
Thimerosol $C_9H_9HgNaO_2S$	2834 291	Organometallic compound Metal salt	Cream colored crystalline powder 1 gram dissolves in 1 ml water LD_{50} mice s.c. 66 mg/kg	Merck 8
2,2'Thiobis (4-chloro-6-methyl phenol	2842 332			
2,2'Thiobis (4,6-Di-chlorophenol) $C_{12}H_6Cl_4O_2S$	2842 331	Phenol Sulfur compound		
Thiocarbamates	2879	Sulfur compound		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Thioglycolic acid $HSCH_2COOH$	2844 336	Sulfur compound	Liquid Strong unpleasant odor Miscible with water Can cause severe burns & blistering of skin. Liberates hydrogen sulfide on decomposition.	Merck 8
Thionine $C_{12}H_9N_3S$	3941	Aniline Sulfur compound	Blackish-green glistening needles, blue-violet solutions Difficulty soluble in cold water, easily in hot.	Merck 8
Thiourea $(NH_2)_2CS$	2842 3 2842 331 2842 498 3861 811	Sulfur compound	White lustrous crystals Soluble in cold water	CCD
Thiram $[(CH_3)_2NCS]_2S_2$	3069	Sulfur compound	White crystalline powder Characteristic odor Insoluble in water May cause irritation of eyes, nose, throat, and skin. Harmful if inhaled or swallowed.	CCD
Thiuram	2851 8	Sulfur compound		
Thorium dioxide ThO_2	3641	Metal oxide	Heavy white powder Insoluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Thyme oil	2834 613 2844 4	Phenol	Colorless to reddish brown liquid Pleasant odor Very slightly soluble in water	CCD
Thymol $(CH_3)_2CHC_6H_3(CH_3)OH$	2834 8 2844 3 2844 321 2844 4 2899 37 3949 2	Phenol	White crystals Aromatic odor, pungent Slightly soluble in water LD_{50} orally in mice 1.8 g/kg	CCD CCD;Merck 8 Merck 8
Tin Sn	2821 3231 3231 5 3411 3432 3461 3461 1 3496 013 3652	Metal	Silver white, lustrous, ductile metal	Merck 8
Tin alloys	3461	Metal	Examples - Tin Copper Tin Brass Tin Nickel Pewter	
Tin chloride $Na_2SnCl_6 \cdot H_2O$	3641	Metal salt	Colorless caustic liquid Soluble in cold water Water converts to the crystalline butter of tin.	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFFRENCE
Titanium dioxide TiO_2	2299 2621 2641 2821 2841 311 2842 442 2842 498 2844 431 2844 514 2844 523 2844 539 2844 543 2844 545 2844 598 2851 12 2851 121 2851 124 2851 2 2851 211 2851 3 2851 352 2851 354 2851 411 2851 6 2851 631 2851 638 2851 8 2891 171 2891 178 2891 179 2893 2893 03	Metal oxide	White powder Insoluble in water High concentrations of dust may cause irritation to respiratory tract	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Titanium dioxide (continued)	3231 3269 3352 3461 1			
Titanium oxide (See:Titanium dioxide)				
Toluene C_7H_8	2279 2842 393 2842 398 2844 531 2851 6 2851 631 2851 863 2851 898 2851 9 2851 911 2891 179 2893 2899 337 2899 37 3069 864	Aromatic hydrocarbon	Liquid Benzene-like odor Very slightly soluble in water May cause mild macrocytic anemia. Narcotic in high concentrations Oxygen demand - zero Toxicity	Merck 8 Heukelekian III-B
Toluene 2,4-Disocyanate $C_9H_6N_2O_2$	2821	Aniline	Liquid Sharp pungent odor Darkens on exposure to sunlight Reacts with water $\longrightarrow CO_2$ Causes skin irritation, allergic eczema and bronchial asthma	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Toluene sulfonic acid Ortho & Para $C_6H_4(SO_3H)(CH_3)$	2821	Sulfonated hydrocarbon	Ortho - Colorless crystals Soluble in water Para - Colorless leaflets Soluble in water No Oxygen demand	CCD Heukelekian
p-Toluic acid $C_6H_4CH_3COOH$	2842 396	Aromatic acid	Transparent crystals Slightly soluble in water	CCD
p-Toluylene diamine	2844 351	Aniline		
Tragacanth (See:Gum tragacanth)				
Triaryl phosphate (See:Tricresyl phosphate)				
Tribromonaphthol $C_{10}H_4Br_3OH$	2842 393	Phenol	Gray crystals	Hackh's
3,4,'5-Tribromosalicylanilide $C_{13}H_8Br_3NO_2$	2842 332	Phenol	Crystals Practically insoluble in water	Merck 8
Tributyl phosphate $(C_4H_9)_3PO_4$	2851 8	Alcohol	Colorless,light-fast liquid Odorless Very slightly soluble in water	CCD

COMPOUND	PRODUCT STC	CHEMICAL CLASS	NOTES	REFERENCE
bis Tributyltin oxide $(C_4Hg)_3SnOSn(C_4Hg)_3$	2851 611 2851 613	Metal oxide	Colorless to pale yellow liquid Practically insoluble in water	CCD
Tricalcium phosphate (See:Calcium phosphate, tribasic)				
Tricalcium silicate	3241	Mineral acid		
Trichloroacetic acid CCl_3COOH	3842 161	Aliphatic acid	Deliquescent colorless crystals Sharp pungent odor Soluble in water	CCD
Trichlorobenzene $C_6H_3Cl_3$	2841 115 2842 331 2851 9 2851 911	Halogenated hydrocarbon	White crystals Insoluble in water Toxicity	CCD III-B
3,4,4'-Trichlorocarbanilide $C_{13}HgCl_3N_2O$	2841 3	Aniline	Fine white plates Anemia and methemoglobinemia have been produced in experimental animals	Merck 8
1,1,1-Trichloroethane CH_3CCl_3	2841 115 2842 3 2842 351 2842 381 2842 393 2842 398 2842 442 2851 863 2851 9 3861 811	Halogenated hydrocarbon	Liquid Insoluble in water Irritating to eyes, mucous membranes and in high concentrations, narcotic Toxicity	Merck 8 III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Trichloroethylene C_2HCl_3	2072 2095 2841 115 2842 3 2842 351 2842 411 2851 9 2899 337 2911 7 2992 2999 113	Halogenated hydrocarbon	Liquid Characteristic odor resembling chloroform Practically insoluble in water LD orally in dogs 5.86 g/kg. Lethal concentration for mice in air 7800 ppm. Human: moderate exposures can cause symptoms similar to alcohol inebriation. Higher concentrations can have a narcotic effect. Deaths occurring after heavy exposure have been attributed to ventricular fibrillation. Toxicity	Merck 8 III-B
Trichlorofluoromethane CCl_3F	2842 381 2851 9 3999 113	Halogenated hydrocarbon	Liquid Faint ethereal odor Practically insoluble in water May be narcotic in high concentrations Toxicity	Merck 8 III-B
Trichloroisocyanuric OCNC1CONC1CONC1	2819 2841 553 2842 332	Hypochlorite	White crystalline powder	CCD
Trichloromethylthio-carboximides	2879	Sulfur compound		
Trichloromonofluoro-methane (See:Trichlorofluorome-thane)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Trichlorophenol $C_6H_3Cl_3O$	2842 393	Phenol	2,4,5-isomer Strong phenolic odor Solubility in water 0.2 g/100 g water LD_{50} orally in rats 2.96 g/kg 2,4,6-isomer Strong phenolic odor Solubility o.1 g/100 g water LD_{50} orally in rats 820 mg/kg	Merck 8 Merck 8
1,3,5-Trichloro-s-triazinetrione (See:Trichloroisocyanuric acid)				
Tricresyl phosphate $C_{21}H_{21}O_4P$	2256 2821 2842 396 2844 531 2992	Phenol	Oily liquid Insoluble in water Ingestion may cause diarrhea,nausea, vomiting: Polyneuritis progressing to paralysis of extremities has been seen in severe poisoning.	Merck 8
Triethanolamine $(HOCH_2CH_2)_3N$	2834 8 2842 341 2842 351 2842 411 2844 133 2844 511 2844 512 2844 514 2844 539 2844 545 2851 9 2851 911	Aliphatic amine	Viscous liquid, colorless Slight ammoniacal odor Turns brown on exposure to air and light Miscible with water May be irritating to skin and mucous membranes Oxygen demand Toxicity	Merck 8;CCD Heukelekian, Lamb III-B

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Triethanolamine dodecyl sulfate	2844 31	Aliphatic amine Alcohol		
Triethanolamine lauryl sulfate $(HOC_2H_4)_3NOS(O)_2OC_{12}H_{25}$	2844 3 2844 398	Aliphatic amine		
Triethanolamine oleate $(HOCH_2CH_2)_3N \cdot HOOCC_{17}H_{33}$	2842 2 2842 465 2842 498	Aliphatic amine		
Triethanalamine stearate	2844 3 2844 341 2844 523 2844 516	Aliphatic amine		
Triethyl ammonium phosphate	2851 863	Aliphatic amine		
Triethylene glycol $CH_2OCH_2CH_2OH$ | $CH_2OCH_2CH_2OH$	2842 381 2844 233 2899 337	Alcohol	Colorless liquid Practically odorless Miscible with water For toxicity see Ethylene glycol Oxygen demand Toxicity	Merck 8 Heukelekian III-B
Trimethyl cetyl ammonium-pentachlorophenate $C_{25}H_{42}Cl_5NO$	2834 8	Phenol	For toxicity see:Pentachlorophenol	Merck 8

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Trimethyl phosphate	2911 1 2911 131	Mineral acid		
2,4,6-Trimitrotoluene (TNT) $CH_3C_6H_2(NO_2)_3$	2892	Nitrogen compound	Yellow needles Insoluble in water	CCD
Tripoli (See:Silica)				
Tripolyphosphates (See:Sodium tripoly-phosphate as an example)				
Tris azirdinyl phos-phine oxide (See:Triethylenephos-phoramide)				
Tris-2,3-Dibromylpro-pyl phosphate $(CH_2BrCHBrCH_2O)_3PO$	2821	Alcohol	Viscous pale yellow liquid	CCD
Tris (hydroxymethyl) nitromethane C_4HgNO_5	2842 331	Nitrogen compound	Solubility in water at 20° = 220 g/100 ml Irritating to skin, mucous membranes	Merck 8
Trisodium phosphate (See:Sodium phosphate, tribasic)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Trisodium salt of hydroxy alkyl ethylene diamine triacetic acid	2844 524	Aliphatic amine		
Triton X-100	3999 115	Alcohol		
Tung oil	2842 423	Aliphatic acid	Yellow, drying oil Reputed to be poisonous	CCD
Tungsten W	3641 3651	Metal	Steel gray to tin-white metal	Merck 8
Turkey red oil	2842 311 2842 415 2844 598	Aliphatic acid		
Turpentine, spirits of	2834 631 2834 65 2842 341 2842 351 2842 4 2842 411 2842 415 2842 423 2842 444 2842 465 2842 498 2851 135 2851 3 2851 9 3842 161 3952	Aliphatic hydrocarbon	Yellowish opaque masses Characteristic odor	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Tween 80,60,85,40 (See:Polysorbate 80,60, 85,40)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Ultramarine	2899 3 3941	Synthetic coloring material	Light blue powder with reddish hue	CCD
Umbelliferone $C_9H_6O_3$	2844 515	Phenol	Develops odor of coumarin on heating One gram dissolves in 100 ml boiling water Solutions show blue fluorescence	Merck 8
Umber	2842 498	Metal oxide	Brown colored earth	CCD
Undecylenic acid $CH_2:CH(CH_2)_8COOH$		Aliphatic acid	Light colored liquid Characteristic fruity-rosy odor Almost insoluble in water Oxygen demand	CCD Heukelekian
Urathene (See:Ethylene vinyl acetate copolymer)				
Urea CH_4N_2O	2841 115 2842 331 2844 4 2844 471 2844 524 2879 2891 1 2893 3079 3111	Ammonia	Develops odor of ammonia white crystals One gram dissolves in one ml water Water solutions decrease on heating giving off ammonia	Merck 8;CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Urea - formaldehyde resins	2299 2511 2621 2653 2851 6 2891 1 3079	Addition polymer	Odorless;tasteless	CCD
Urea phosphate	2261	Ammonia		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Vanadium pentoxide V_2O_5	3231	Metal oxide	Yellow to red crystalline powder Slightly soluble in water	CCD
Vanillin $(CH_3O)(OH)C_6H_3CHO$	2086 2087	Aldehyde	White crystalline needles Pleasant aroma Soluble in 125 parts water	CCD
Varnish	2851 1 2851 124 2851 131 2851 135 2851 137 2851 139 2851 352 2851 354 2851 371 2911 7 3111 3952			
Vegetable gum (See:Dextrin)				
Vegetable oils	2834 5 2834 9 2842 332 2842 465 2342 498 2844 341 2844 515 2844 517	Aliphatic acid	Oily	

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Vegetable oils (continued)	2844 523 2851 2 2851 211 2851 4 2851 411 2851 6 2851 8 2891 1 2891 183			
Vermiculite	2891 179	Metal salts	Platelet-type crystalline structure Insoluble in water	CCD
Versene acid (See:Ethylene diamine tetraacetic acid)				
Vinegar	2051	Aliphatic acid		
Vinsol	3652	Addition polymer	Dark, brittle resin	CCD
Vinyl (See:Vinyl compounds)				
Vinyl acetate $CH_3COOCH:CH_2$	2256 2261 2262 2269 2842 397 2891 19 3652	Aldehyde	Colorless liquid Insoluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Vinyl chloride CH_2:CHCl	2299 2891 171 3069 864 3079 3652	Halogenated hydrocarbon	Easily liquified gas Pleasant ethereal odor Slightly soluble in water	CCD
Vinyl compounds	2256 2261 2262 2269 2299 2514 2522 2821 2891 171			
Vinyl copolymer resin	2256 2261 2262 2269 3652	Addition polymer		
Vinylidene chloride CH_2:CCl_2	2256 2261 2262 2269 2821	Halogenated hydrocarbons	Colorless volatile liquid	CCD
Vinyl organosols	3411			
Vinyl resins (SEE:Polyvinyl resins)				

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Wax	2087	Aliphatic hydrocarbon Aliphatic acid	Insoluble Color	CCD CCD
	2299			
	2621			
	2834 8			
	2842 3			
	2842 311			
	2842 341			
	2842 381			
	2842 397			
	2842 4			
	2842 415			
	2842 423			
	2842 442			
	2842 444			
	2842 465			
	2842 498			
	2844 512			
	2844 513			
	2844 514			
	2844 521			
	2844 523			
	2844 543			
	2844 545			
	2851 8			
	2911			
	3141			
	3861 811			
	3952			
	3955 03			
	3991 1			
Wax, mercurized	2844 598	Metal salt		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Wax, mineral or microcrystalline	2073 2621 2641 2842 4 2842 411 2842 498 2844 514 2844 521 2893 2911 7 3496 011 3496 012 3496 013 3652 3955 03 3991	Aliphatic hydrocarbon	Unctous, fusible, viscous solid Color variable;white or yellow waxy cakes White is odorless;yellow has a slight odor Insoluble in water	CCD CCD;Merck 8 Merck 8
Wax, synthetic	2842 411 2842 415 2842 423 2842 498 3955 03	Addition polymer		
Wax, white (See:Wax)				
Wintergreen (See:Methyl salicylate)				
Witch hazel	2834 621 2844 156 2844 519	Aromatic acid Phenol		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Wood	2515 2519 2591 3231 5 3991 1 3999 3	Carbohydrate		
Wood ash (See:Potash)				
Wood flour	2842 3 2842 351 2891 171 3111	Carbohydrate	Pulverized dried wood Color varies	CCD
Wood pulp	2647 2653 3955 03	Carbohydrate		
Wood,unbleached ground	2621 100	Carbohydrate		

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Xylene $C_6H_4(CH_3)_2$	2511 2834 9 2842 385 2842 393 2842 411 2842 465 2844 531 2851 6 2851 8 2851 898 2851 9 2893 2899 337 2899 37 2911 2992 3111 3141	Aromatic hydrocarbon	Mobile liquid Practically insoluble in water MLD orally in rats 4.0 g/kg. Lethal concentration for mice in air 6000 ppm Human: May be narcotic Toxicity Oxygen demand - zero	Merck 8 III-B Heukelekian

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Yeast	2834 621 2841 115		Yellowish-white viscid liquid or soft mass	CCD
Yttrium vanadate YVO_4	3651	Metal salt	White crystalline solid	

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Zein	2061	Aliphatic acid	White to slightly yellow powder Odorless Dispersible in water Non toxic	CCD
Zinc Zn	2491 2514 2522 2851 2899 3 2992 3432 3692 3941 3952	Metal	Shining white metal with bluish gray luster Insoluble in water	CCD
Zinc caprylate $Zn(C_8H_{15}O_2)_2$	2834 8	Metal salt	Lustrous scales Slightly soluble in boiling water Decomposes in moist atmosphere giving off caprylic acid	CCD
Zinc chloride $ZnCl_2$	2491 2842 331 2842 393 2844 471 2899 336 3692 3842 161	Metal salt	White granules Odorless One gram dissolves in 0.5 ml water With much water some zinc oxychloride is formed LD i.v. in rats 75 mg/kg Toxicity Moderately irritating to skin, mucous membranes Reportedly, has been fatal	Merck 8 III-B Gleason

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Zinc chromate $ZnCrO_4$	2851 6 2851 613	Metal salt Mineral acid	Yellow powder Insoluble in water	CCD
Zinc compounds	2844 133	Metal salt		
Zinc dialkyl dithio-phosphates	2992	Metal salt Sulfur compound		
Zinc dimethyedithio-carbamate (See:Ziram)				
Zinc naphthenate	2842 393 2861	Metal salt	Amber, viscous liquid	CCD
Zinc oleate $Zn(C_{18}H_{33}O_2)_2$	2842 393	Metal salt	White, dry greasy powder Insoluble in water	Merck 8
Zinc oxide ZnO	2299 2834 5 2834 6 2834 613 2834 617 2834 621 2834 9 2842 442 2844 514 2844 522 2844 541	Metal oxide	Amorphous white or yellowish-white powder Odorless Insoluble in water	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Zinc oxide (continued)	2344 543 2844 545 2844 598 2851 1 2851 121 2851 2 2851 211 2851 6 2851 613 2851 618 2851 8 2891 1 3011 3069 3069 8 3231 3692 3941 3952 3999 3			
Zinc peroxide ZnO_2	2834 6	Metal oxide	White powder Insoluble in water, but gradually decomposed by it	CCD
Zinc phenolsulfonate $C_{12}H_{10}O_8S_2Zn \cdot 8H_2O$	2842 381 2844 156	Phenol Metal salt	Crystals or crystalline powder Odorless One gram dissolves in 1.6 ml water	Merck 8
Zinc resinate	2842 393	Rosin acid Metal salt	Powder, clear amber lumps or clear yellowish liquid	CCD

COMPOUND	PRODUCT SIC	CHEMICAL CLASS	NOTES	REFERENCE
Zinc salts	2851 6 2911 7 3999 119	Metal salt	Soluble in water Produce irritation or corrosion of alimentary tract with pain, emesis,etc.	Gleason
Zinc stearate $Zn(C_{18}H_{35}O_2)_2$	2842 4 2844 512 2844 514 2844 522 2844 541 2844 543 2844 545 2844 598 3652 3999 117	Metal salt Aliphatic acid	Fine, soft, bulky powder Slight characteristic odor Insoluble in water Inhalation may cause pneumonitis	Merck 8
Zinc sulfate $ZnSO_4 \cdot 7H_2O$	2834 5 2842 393 3941	Metal salt	Colorless crystals Odorless Soluble in water	CCD
Zinc sulfocarbolate	2844 598	Metal salt		
Ziram $C_6H_{12}N_2S_4Zn$	2842 393	Sulfur compound	Practically insoluble in water Causes irritation of skin and mucous membranes, renal damage	Merck 8
Zirconium Zr	3641	Metal	Bluish-black,amorphous powder or grayish white lustrous metal Low systemic toxicity. Granulomatons disease of skin has been reported.	Merck 8
Zirconium oxide ZrO_2	3461 1	Metal oxide	White,heavy,amorphous powder Odorless Practically insoluble in water	Merck 8

BIBLIOGRAPHY

Arranged Alphabetically by Abbreviation Used in Report.

ADL-I	"Water Quality Criteria Data Book, Volume I Organic Chemical Pollution of Freshwater," prepared by Arthur D. Little, Inc., Cambridge, Ma., for the Environmental Protection Agency, Water Quality Office, Project # 18010 DPV, Contract # 14-12-538, December 1970.
AMER DYE	American Dyestuff Report 58 (6) 3/24/69.
API 3/70	American Paper Industry, 3/70, pp. 39-45.
ASTM	American Society For Testing & Materials, New York.
BRITT	Britt, Kenneth W., ed. Handbook of Pulp & Paper Technology, Reinhold Publishing, New York, 1964.
BURESH	Buresh, Francis M., Nonwoven Fabrics, Reinhold Publishing Corporation, New York, 1962.
CCD	Condensed Chemical Dictionary, 7th Edition, Reinhold Book Corporation, 1968.
CONS RPT	Consumer Reports, January 1969 and February 1969.
E.B.	Encyclopedia Britanica
FURN DES	Furniture Design & Manufacturing, November 1969.
GLEASON	Gleason, Marion M., R. E. Gosselin, H. C. Hodge, R. P. Smith. Clinical Toxicology of Commercial Products, 3rd Edition, Williams & Wilkins Co., Baltimore 1971.
HACKH'S	Hackh's Chemical Dictionary, 4th Edition, McGraw-Hill Book Company, 1969.
HEUKELEKIAN	Heukelekian, H. and M. C. Rand, "Biochemical Oxygen Demand of Pure Organic Compounds." Sewage & Industrial Waste, 1040-53 (September 1955).
JELLINEK	Jellinek, J. S., Formulations & Functions of Cosmetics, Wiley Inter-Science, 1970, p. 266.

K-O	Kirk-Othmer Encyl of Chemical Technology. Second completely revised edition.
KRČMA	Krčma, Radko, Nonwoven Textiles, S.N.T.L., Publishers of Technical Literature, Prague, in coordination with Textile Trade Press, Manchester, England, 1962, Translated 1967.
LAMB	Lamb, Charles B. and George F. Jenkins, "B.O.D. of Synthetic Organic Chemicals," pp. 326-39, Proc. 7th Industrial Waste Conference, Purdue University, 1952.
MATERIALS ENG	Materials Engineering, May-July 1972.
MERCK 8	The Merck Index, 8th Edition, Merck & Company, Inc. Rahway, New Jersey, 1969.
MILLS 8	Mills, E. J., Jr. and Vernon F. Stack, Jr., "Biological Oxygen Demand of Synthetic Organic Chemicals," pp. 492-517. Proc. 8th Industrial Waste Conference, Purdue University, 1953.
PHARMA-COPOEIA	The U. S. Pharmacopoeia, 12th Revision, 1942.
PLASTICS GUIDE	Plastics Materials Guide, 1970-71.
THOMAS	Thomas Register of American Manufacturers & Thomas Register Catalogue File, 1972.
TOXIC SUB	The Toxic Substances List, 1971 Edition edited by H.E. Christensen, U. S. H.E.W., June 1971.

APPENDIX A

TOXICITY DATA

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REFERENCES

Ref. ADL-I is: "Water Quality Criteria Data Book. Vol. I. Organic Chemical Pollution of Freshwater"

Prepared by Arthur D. Little, Inc.,
Cambridge, Mass.
For the Environmental Protection
Agency,
Water Quality Office,
Project #18010 DPV,
Contract #14-12-538,
December 1970.

ALCOHOLS

COMPOUND	NOTES	REF.
Ethylene glycol	Administered orally to rats, 50% in water, 2 ml/kg body wt. every other day for 8-79 days. Tumor: 0/30	ADL-I, p. 273
	Tested for carcinogenicity with negative results	PB 183027 (CA 71, 63779g)
	No evidence of oncogenic potential, when injected s.c. in mice less than 24 hr. old	PB 195153 (CA 75, 17711d)
	Administered to monkeys in drinking water at concns. of 0.25-10%, significant pathological alterations were limited to the kidneys. In animals receiving <15 ml/kg, mild glomerular damage was found, and azotemia occurred in some animals, suggesting a toxic effect of ethylene glycol apart from its conversion to oxalic acid	Toxicol. Appl. Pharmacol. 15 (3), 624-31 (1969) (CA 72, 41119a)
	When tested for toxic effects by the inhalation route in rats, guinea pigs, rabbits, monkeys and dogs during continuous or repeated exposures, animals in repeated exposures at 10 and 57 mg/m^3 showed no changes that were considered to be chemically induced. Continuous exposure at 12 mg/m^3 resulted in moderate to severe eye irritation in rabbits and corneal damage with apparent blindness in 2 of 15 rats after 8 days.	Toxicol. Appl. Pharmacol. 16 (3), 646-55 (1970) (CA 73, 54097m)
	In studying the effect of anti-freeze liquid on fish, di- and triethylene glycol were less harmful than monoethylene glycol, the lethal concn. of which was 2-3 g/l.	Zivocisna Vyroba 13 (7), 519-26 (1968) (CA 70, 90588)
Glycerol	Renal lesions in rabbits after the intramuscular injection of 13 ml/kg of a 25% aq. glycerol solution indicated a close relation to human acute renal failure.	Progr. Nephrol., Proc. Symp. "Ges. Nephrol.," 5th, 1967 (CA 75, 96621a)
Polyethylene glycol	In a study of polyethylene glycols (PEG) as osmotica to decrease the water potential of culture solns. for studies of higher plant response to water stress. PEG decreased transpira-	New Phytol. 69 (2), 501-13 (1970) (CA 73, 84697a)

ALCOHOLS

COMPOUND	NOTES	REF.
	tion and water potential and caused the leaves to die. The detergent properties of PEG were not responsible for the toxicity. PEG of higher mol. wt. is considered to cause blockage of the pathway of water movement, reducing water absorption and causing dessication of the plant.	
Propylene glycol	A high non-lethal dose (10 ml/kg) affected the carbohydrate metabolism of young rats. Drastically reduced capacity to synthesize or store liver glycogen noted.	Proc. Soc. Exp. Biol. Med. 133 (2), 593-6 (1970) (CA 73, 33773q)
	In the concn. range 1.29-20.72 x 10^{-3} g/ml, propylene glycol exerted a smooth muscle-relaxant effect on rabbit jejunum and guinea pig ileun, probably due to a direct spasmolytic effect.	Indian J. Physiol. Pharmacol. 13 (3), 147-51 (1969) (CA 73, 43529d)
Triethylene glycol	In toxicity tests following single or repeated exposure of rats and mice were: ethylene glycol, 300; diethylene glycol, 600; and triethylene glycol, 800 mg/m^3.	Ingiena 19 (4), 209-18 (1970) (CA 75, 33268v)

ALDEHYDES

COMPOUND	NOTES	REF.
Chloral hydrate	Chromosome injury in root tips caused by chloral hydrate was greater than that caused by colchicine and hexachlorocyclohexane. Unlike the latter compounds, chloral hydrate did not allow a percent of cells arrested in the metaphase stage to enter the metabolic stage and to divide.	Acta Biol. (Budapest) 20 (1), 11-21 (1969) (CA 70, 105334k)
	Inhibition of protein synthesis in Chlamydomonas reinhardii and inhibition of cell division noted.	Biochem. Biophys. Acta 238 (2), 338-42 (1971) (CA 75, 62116z)
	I.v. injection of chloral hydrate to pigs caused a respiratory acidosis.	Ann. Univ. Mariae Curie-Sklodowska, Sect. DD 25, 211-29 (1970) (CA 75, 97191x)

ALIPHATIC ACIDS

COMPOUND	NOTES	REF.
Chloroacetic acid	Possible poisoning indicated in workers engaged in the production of trichloroethylene and monochloroacetic acid	Gig. Tr. Prof. Zabol. 13 (7), 35-8 (1969) (CA 73, 112652c)
Ethylenediaminetetraacetic acid	Investigation of the acute toxicity of nitrilotriacetate, EDTA, and Na_2 EDTA in various aquatic animals showed that the lethal threshold concns. were always above 200 mg/l. The toxic effects of equal concns. were always stronger in seawater than in fresh water.	Arch. Fischereiweiss. 20 (2-3), 178-81 (1969) (CA 73, 63684d)
	Observations on the effect of the concentration of EDTA on the packed cell volume of various domestic animals confirmed that in man the concn. of EDTA should not exceed 2 mg/ml blood.	Brit. Vet. J. 126 (7), 383-9 (1970) (CA 73, 128630e)

ALIPHATIC AMINES

COMPOUND	NOTES	REF.
Benzethoniun chloride or Hyanine 1622	Tested for carcinogenicity with negative results.	PB 183027 (CA 71, 68779g)
	Mice less than 24 hr. old were injected s.c. with benzethonium chloride and examined after 15 months for evidence of carcinogenic activity. The compound appeared to have no oncogenic potential.	PB 195153 (CA 75, 17711d)
	Can be selectively used as an inhibitor for certain peptidase-like inzymes, such as oral peptidase, known to be a factor in development of dental caries.	FEBS Lett. 2 (2), 101-4 (1968) (CA 70, 54320t)
	Medium lethal doses of monoethanolamine were 2050 mg/kg (rat), 1475 (mouse), 1000 (rabbit), and 620 (guinea pig); similiar amts. were lethal with diethanolamine.	Mater. Nauch. Prakt. Konf. Molodykh Gig. Sanit. Vrachei, 11th, 1967, 217-19. (CA 73, 118618t)
Ethanolamine	Medium lethal doses were 2050 mg/kg (rat), 1475 (mouse), 1000 (rabbit), and 620 (guinea pig).	Mater. Nauch. Prakt Konf. Molodykh Gig. Sanit. Vrachei, 11th, 1967, 217-19. (CA 73, 118618t)
Ethylenediamine tetraacetic acid	See: Aliphatic Acids	
Triethanolamine	Medium lethal doses of monoethanolamine were: 2050 mg/kg (rat), 1475 (mouse), 1000 (rabbit), and 620 (guinea pig); similar amts. were lethal with triethanolamine.	Mater. Nauch. Prakt. Konf. Molodykh Gig. Sanit. Vrachei, 11th, 1967, 217-19. (CA 73, 118618t)
	According to the literature, triethanolamine is nontoxic. The headaches and vascular dystonia noted in machine-tool employees after 3-5 months of exposure to a cooling liquid, consisting of a mixture of 0.3% $NaNO_2$ soln. and 1% triethanolamine soln., are assumed due to the action of $NaNO_2$.	Kazan. Med. Zh (1), 77-8 (1968) (CA 72,103445q)

AMMONIA

COMPOUND	NOTES	REF.
Ammonia	Pregnant mice exposed to a mixture of chlorophene and ammonia suffered partial or complete disintegration of embryos. Pregnant mice exposed to ammonia only showed no signs of embryonic damage.	Toksikol. Nov. Prom. Khim. Veshchestv. No. 11 106-11 (1968) (CA 72, 93157f)
	Expts. carried out on monkeys indicate that NH_3 can be toxic to the normal brain if the concn. is above the tolerance level. Excess NH_3 causes gliosis at the cingulate gyrus.	Trans. Amer. Neurol. Assoc. 95, 82-5 (1970) (CA 75, 3448m)
	Concns of NH_3 tolerated by fish varied considerably with trout eggs, 0.2 mg NH_3/l is damaging, while carp can tolerate up to 2.0 mg/l.	Muenchner Beitr. Abwasser-, Fisch.-Flussbiol. 16, 38-48 (1969) (CA 72, 97846c)
	NH_3 was tested for toxic effects by the inhalation route in rats, guinea pigs, rabbits, monkeys, and dogs during continuous or repeated exposures at 155 mg/m^3 of NH_3 produced no adverse effects; at 770 mg/m^3 there were ocular and nasal irritation in rabbits and dogs; some nonspecific inflammatory changes noted in lungs and kidneys. Continuous exposures at levels of 455 and 470 mg/m^3 caused 90-98% mortality in rats, and marked eye irritation in rabbits and dogs.	Toxicol. Appl. Pharmacol. 16 (3), 646-55 (1970) (CA 73,54097m)
Ammonium chloride	For certain algae, NH_4Cl can be utilized as a N source in the culture media. For fish, NH_4Cl is toxic	Hydrobiologia 33 (2), 209-22 (1969) (CA 72, 24360e)
	Excessive administration of NH_4Cl to normal adult male rats receiving a diet adequate in vitamin D caused the development of osteoporosis, which was due to loss of bone substance and bone mineral.	Calcif. Tissue Res. 4 (2), 94-100 (1969) (CA 72, 41424w)
	I.V. infusion of 3 mequiv. of NH_4Cl/kg body wt during 5 min. killed calves within 3 min after finishing the infusion.	Acta Vet. (Brno) 39 (4), 415-26 (1970) (CA 75, 47264c)

AMMONIA

COMPOUND	NOTES	REF.
	Acute ammonium poisoning was induced in 3 groups of sheep, using a mixt. of NH_4Cl, - CO_3, - PO_4, and - SO_4.	Am. J. Vet. Res. 32 (8), 1229-38 (1971) (CA 75, 116948t)
	General passive hyperemia and numerous petechial and ecchymotic hemorrhages in the musculature, heart, thymus, and lungs were constant gross alterations in sheep intraruminally injected with NH_4Cl.	Am. J. Vet. Res. 32, (8), 1239-46 (1971) (CA 75, 116949u)
Ammonium hydroxide	Toxicity of NH_4OH (undissocd.) to striped bass and stickleback was detd. by static broassay at 15 and 23°. The 96-hr. median tolerance limits (TL_m) of striped bass in fresh water, brackish water, and sea-water, resp., were 2.8, 2.8, and 2.0 at 15° and 1.9, 2.1, and 1.5 mg/liter at 23°. For stickleback the values were 2.1, 5.2, and 10.4 at 15° and 1.8, 2.4, and 2.3 mg/liter at 23°, resp.	Calif. Fish Game 57 (3), 138-53 (1971) (CA 75, 127262r)

ANILINE

COMPOUND	NOTES	REF.
Aniline	The blood coagulation system was studied in 135 workers exposed to aniline. These workers showed a clear cut tendency towards reduction of the prothrombin activity, a marked decrease of the VII factor content, a regular diminution of the fibrinogen level and an increased fibrinolytic activity.	Gig. Tr. Prof. Zabol. 13 (11), 26-8 (1969) (CA 75, 109214k)
Benzocaine	Skin sensitization was produced in man with benzocaine	Proc. Joint Conf. Cosmet. Sci. 1968, 107-22 (CA 70, 104684n)
p-Phenylenediamine	Injected without conjugation in aq. soln. into the lungs of guinea pigs produced a massive pulmonary eosinophilia.	J. Allergy 45 (4), 234-47 (1970) (CA 73, 12588t)
	In guinea pigs, showed strong anaphylactogenic properties; in some cases, showed toxic effects as manifested by the symptoms of traumatic shock.	Gig. Naselennykh Mest 8, 147-52 (1969) (CA 73, 53979q)
	Skin sensitization was produced both in man and in guinea pigs.	Proc. Joint Cong. Cosmet. Sci. 1968, 107-22 (CA 70, 104684n)

AROMATIC ACID

COMPOUND	NOTES	REF.
Benzocaine	See: Aniline	
Dibutyl phthalate	In rats, 0.1-1.25% in diet/lyr. Tumor: 0/40	ADL-I, p.275
	Feeding the fruit fly with a standard feed mixture containing sublethal doses of dibutyl phthalate and other compounds did not cause X-chromosome mutations in the male.	Gig. Naselennykh Mest 8, 35-7 (1969) (CA 73, 32799r)

AROMATIC HYDROCARBON

COMPOUND	NOTES	REF.
Benzene	In mice, twice weekly, (skin) Tumor: +/21 In mice, 25 µl 2 x wk/24 wk,(skin) Tumor: +/36 In mice painted 2 x wk/40wk, (skin) Tumor: +/40 In mice, once a wk/4mos., thrice weekly thereafter for 108 applications in 12 mos. (total dose - 8.9 gm), (skin) Tumor: Negative	ADL-I p. 282
	More dangerous to women than to men owing to the higher incidence of anemia.	Prac. Lek. 21 (10) 453-8 (1969) (CA 72, 88404e)
	Chronic benzene poisoning involved myocardial dystrophy and dominition of heart contractile function.	Gig. Tr. Prof. Zabol. 13 (11), 32-6 (1969) (CA 72, 109215m)
	Mice received benzene s.c. at 0, 0.2, 0.5, or 1.0 ml/kg for 5 days. Results on 6th day: benzene depressed the gain in body wt. and decreased HB concn. No statistical changes observed in erythrocyte counts. Benzene produced a marked dose-related leukipenia.	Ind. Health (Jap.) 7 (1-2), 54-65 (1969) (CA 72, 98669j)
	May cause leukemia and may contribute to the origin of sarcomatous lymphogangliar tumors	Minerva Med. 60 (39), 1897-901 (1969) (CA 71, 89491x)
	Hematologic alterations were detected in 23.5% of the 217 subjects working mainly in shoe manufacturing and exposed to benzene vapors.	Istanbul Univ. Tip. Fak. Mecm. 33 (1), 114-28 (1970) (CA 75, 86782q)
Naphthalene	In rat; in oil (in synthetic diet) 6 times a wk, 10-20 mg until dose of 10 g/rat in food. Tumor: Negative	ADL-I, p. 279
	The i.p. LD_{50} of naphthalene for male and female rats is 0.59 and 0.6 g/kg	Vop. Gig. Tr. Prof. Patol. Ugol., Gornorud, Met. Prom., pp.144-6 (1968) (CA 73, 118667h)

AROMATIC HYDROCARBONS

COMPOUND	NOTES	REF.
	In 24 hr, naphthalene, given i.p. to rats at 1g/kg, increased brain NH_3 by 88.4%, decreased the concn. of labile amide groups in the brain by 20.8% and decreased the activity of brain glutamate synthetase.	Farmakol. Toksikol. (Moskow) 33 (3), 337-40 (1970) (CA 73, 54078g)
Toluene	In rat; 118, 354, or 590 mg/kg/d in 2-3 ml olive oil soln emulsibied and 5-10% aq, soln, if acacia for 138 feedings. Tumor: Negative	ADL-I, p. 280
	Decreases of alk. phosphatase activity of ten found in workers exposed to weak concns. of toluene for several years.	Arch. Mal. Prof. Med. Trav. Secur. Soc. 31 (1-2), 31-7 (1970) (CA 73, 2086p)
Xylene	In mouse, weekly appln. (skin) Tumor: Negative	ADL-I, p. 283

CYANIDES

COMPOUND	NOTES	REF.
Cyanide	A concn. of 0.1 mg CN^-/l caused the death of 40% of the small carp placed in it for 24 hours. The survivors recovered when placed in pure water. The same exposure produced a 60% kill of Daphnia and the survivors did not recover normal activity.	Gig. Sanit. 34 (12), 78-9 (1969) (CA 72, 82730m)

FLUORIDES

COMPOUND	NOTES	REF.
Sodium fluoride	Inhalation of NaF for 5 mos. produced greater toxic symptoms than were obsvd. from consumption of an equal quantity of NaF in the drinking water. Atm. concns. of 0.01-0.1 mg/m^3 are toxic.	Gig. Sanit. 35 (8), 14-17 (1970) (CA 73, 118646a)
	The health of 1-year-old steers was not influenced by oral application of NaF at 2 g/day for 77 days, but the wt. gains of the steers receiving NaF were lower than the controls. The blood composn. was not affected by NaF.	Veterinaria (Prague) 12 (1-2), 159-72 (1970) (CA 75, 2033k)
	Rats fed 450-600 ppm F as NaF for 3 days showed a small decrease in a no. of metabolites and rather large decreases in pyruvate and lactate and a large increase in liver citrate. Rats fed 450 ppm F showed a depression in most plasma amino acids and an elevation of plasma glycine.	Trace Elem. Metab. Anim., Proc. WAAP/IBP Int. Symp. 1969 (Pub. 1970), 180-7 (CA 75, 74335h)

HALOGENATED HYDROCARBONS

COMPOUND	NOTES	REF.
Benzene hexachloride	In rat, 100 ppm in diet up to 8 mos. Tumor: 0/12	ADL-I, p264
Carbon tetrachloride	In dog, 0.125-0.5 ml/kg 3 x wk in a 1:1 soln and corn oil. Tumor: 0/8	ADL-I, p.272
	In mouse, 0.2 ml of 2% olive oil soln. 2 x wk interval, 3% soln, given weekly for 17 wk. Tumor: +/37	ADL-I, p.272
	In mouse, 0.1 ml of 40% soln. in olive oil , 3 x wk for 45-66 doses/13.5 wk. Tumor: Positive	ADL-I, p. 272
	Cirrhosis and ciarcinoma of the liver reported in male rats given subcutaneous carbon tetrachloride	J. Nat. Cancer Inst. 44 (2), 419-27 (1970) (CA 72, 98671d)
	Newborn rats from mothers treated daily with CCl_4 during pregnancy showed degenerative changes in the liver and in the blood cells. Lipid metabolism of the liver tissue of the mother rats was damaged.	Tr. Leningrad. Sanit.-Gig. Med. Inst. 82, 37-40 (1967) (CA 71, 68988z)
	In normal cells of mammals no mutagenic activity was found for CCl_4 in concn. 0.05 mg/l by inhalation.	Aktual. Vop. Gig. Tr. Prof. Patol., Mater. Konf., 1st 1967 (Pub. 1968), 72-4 (CA 72, 47131v)
	In pregnant mice, the massive acute intoxication produced by i.p. administration of CCl_4 brought about very high rates of fetal mortality	Exp. Pathol. 3 (4-5), 255-63 (1969) (CA 72, 41124y)
Chlordane	Albino rats fed a low-protein diet developed toxicity to chlordane greater than did those on a normal diet, death occurring 1-4 days after admin. of chlordane. Chlordane did not induce the degree of susceptibility caused by other pesticides; seemingly would not present a particular hazard in countries having a low-protein diet.	Ind. Med. Surg. 38 (12), 434-41 (1969) (CA 72, 65792r)
Chloroform	In mouse, 8×10^{-4} and 4×10^{-4} ml dose in olive oil every 4 days, 30	ADL-I, p. 272

HALOGENATED HYDROCARBONS

COMPOUND	NOTES	REF.
	times. Tumor: 7/20	
	In mouse, 2% in diet/13mos. Tumor: 0/40	ADL-I, p. 272
	Continuous perfusion with Ringer-Locke soln. satd. with $CHCl_3$ produced diastolic arrest of the isolated rabbit heart.	Pharmacology 1 (6), 358-62 (1968) (CA 70, 104741d)
DDT	In mouse; five generations of mice fed DDT at 2.8-3.0 ppm of the diet for 6 mos. Tumor: 196/683	ADL-I, p. 269
	In mouse, 46.4 mg/kg/d. from 7-28 days of age (P.O. stomach tube), then 140 ppm/d. in diet (0.5% gelatin) for 18 mos. Tumor: Positive	ADL-I, p. 269
	In rat, 200-800 ppm in diet for near-life span. Tumor: Positive	ADL-I, p.269
	In fish, trout; 75ppm. Tumor: Positive	ADL-I, p. 269
	In rat; 100, 200, 400 and 800 ppm in diet for 18 mos. Tumor: 15/75	ADL-I, p. 269
	In mouse, 105 mg/kg. Mutagenicity; Negative	ADL-I, p. 286
	Plant, saturated soln. Mutagenicity: C - Mitosis Chromosome breaks	ADL-I, p. 286
	In chick. Teratogenicity: Negative	ADL-I, p. 286
	The sensitivity of the skin to 10% soln. of DDt was tested. A pos. reaction was given by DDT at 8.2%	Med. Zh. Uzb. No. 9, 58-60 (1969) (CA 72, 110272j)
p-Dichlorobenzene	In rabbit, 500 mg/kg fed 5 d./wk for a total fo 263 doses. Tumor: 0/7	ADL-I, p. 280

HALOGENATED HYDROCARBONS

COMPOUND	NOTES	REF.
Ethylene dichloride	A 4-8 hr. exposure to 0.07% 1,2-dichloroethane increased the occurrence of nondivergence of the X-chromosome. The no. of recessive sex-linked lethal mutations was also increased and correlated with the time of exposure.	Genetika 5 (12), 89-95 (1969) (CA 72, 129677s)
	After exposure of the adult female radioresistant Drosophila to 1,2-di-chloroethane the frequency of recessive lethal mutations increases, the increase depending on the length of the exposure.	Vestn. Leningrad. Univ. Biol. No. 1, 153-6 (1970) (CA 73, 32801k)
Heptachlor	In mouse, in diet/2 yr. Tumor: Positive	ADL-I, p. 265
	In rats, by mouth at 5, 50 or 100 mg/kg body wt/day. All animals in high-dose groups died within 10 days.	Arch. Belg. Med. Soc. Hyg., Med. Trav. Med. Leg. 26 (7), 529-38 (1968) (CA 71, 2474x)
Hexachlorobenzene	Chronic poisoning of the rat with hexachlorobenzene caused changes in serum enzyme activity; rat bone marrow was not damaged; human bone marrow was not damaged	Congr. Int. Dermatol. 13th, 1967 (Pub. 1968), 2, 1293-4 (CA 73, 118296m)
	Given to Japanese quail for 90 days at dietary concns of 0, 1, 5, 20, and 80 ppm. Birds receiving the highest dose had tremors, increased mortality, lower reproductivity, and reduced egg vol., among other effects.	Toxicol. Appl. Pharmacol. 18 (4), 944-57 (1971) (CA 75, 46063z)
Lindane	In rat, 32 mg/kg in aq. emuls. (gastric tube) daily for 6 mos. Tumor: 0/48	ADL-I, p. 265
	In onion root tips, mutagenic effects indicated by chromosome breaks; dose of 0.00125% showed aneuploidy and chromosome fragmentation; dose of 0.0006-2.0%, C-mitosis.	ADL-I, p. 284
	In other plant root tips, solid particles dose showed chromosome abberations.	ADL-I, p. 284

HALOGENATED HYDROCARBONS

COMPOUND	NOTES	REF.
	In chick, 5 mg/egg. Teratogenicity; Negative.	ADL-I, p. 284
Methylene chloride	Inhalation (5 mg/l) for 3 mos. did not affect the body wt. or behavior of rats, but produced biphasic changes in the electrocorticogram.	Gig. Sanit. 36 (4), 20-5 (1971) (CA 75, 18022s)
Perchloroethylene	No signigicant changes in liver, blood total lipids, and other hepatotoxic effects found in rats i.p. injected every second day at 2 doses, 0.5 and 1.5 ml/kg. Fat deposition observed in mice inhaling 1080 ppm for 4 hr, but not in rats.	Igaku To Seibutsugaku 79 (3), 123-9 (1969) (CA 72, 77043k)
Trichlorobenzene	Single dose acute oral LD_{50} of 756 mg/kg for rats and 766 mg/kg for mice. Acute percutaneous LD_{50} for rats is 6139 mg/kg. Sublethal doses caused liver damage in pigs. Irritating to skin	Ann. Occup. Hyg. 12 (4), 209-12 (1969) (CA 72, 53304v)
1,1,1-Trichloroethane	In rats, no enhanced hepatic triglyceride level demonstrated	Biochem. Pharmacol 18 (8), 2019-27 (1969) (CA 71, 89647c)
Trichloroethylene	ATP content of rabbit retina decreased 26% by 18 i.m. injections (8.75-9 ml/kg total dose).	Albrecht von Graefes Arch. Klin Exp. Opthalmol. 175 (1) 1-6 (1968) (CA 70, 1926p)
	In humans exposed to atm. contg. 200ppm, highest concns. in the expired breath occurred after 3 hr exposure. In daily 7-hr exposures, ability to smell was lost, eye irritation noted.	Arch. Env. Health 20 (1), 64-71 (1970) (CA 72, 47139d)
	Slight prenarcotic symptoms noted im semiconductor manuf. plant employees exposed up to 6 yr.	Med. Lav. 60 (10), 595-601 (1969)
Trichlorobenzene	No significant changes in liver, blood total lipids, and other hepatotoxic effects in rats i.p. injected every second day at 2 doses, 0.5 and 1.5 ml/kg. Fat deposition observed in mice inhaling 1100 ppm for 4 hr, but not in rats.	Igaku To Seibutsugaku 79 (3), 123-9 (1969) (CA 72, 77043k)

HALOGENATED HYDROCARBONS

COMPOUND	NOTES	REF.
Trichloropluoromethane	Toxic to the hearts of 14 mice. Cardiac sensitization so occurred in rats and dogs.	J. Am. Med. Assoc. 214 (1), 81-5 (1970) (CA 73, 118652z)

METALS

COMPOUND	NOTES	REF.
Arsenic	In human epidermal cells, inorg. bound arsenate inhibited replication (DNA synthesis) and interrupted repair mechanisms.	Arch. Klin. Exp. Dermatol. 237, 819-26 (1970) (CA 73, 53901h)
	Possible teratogenic effects noted in hamsters; exencephalic malformations were most common.	Arch. Environ. Health 18 (6), 873-7 (1969) (CA 71, 47775n)
	Exposure of mice to an aerosol contg. 1% As 6 wks. for 6 hr. a day caused a sharp increase of the As content in the liver.	Cesk. Hyg. 14 (7-8), 266-71 (1969) (CA 72, 35505g)
	Administration of drinking water contg. 5 mg/l As to breeding colonies of rats or mice and their offspring resulted in rapid dieoff of the colonies.	Arch. Env. Health 23 (2), 102-6 (1971) (CA 75, 107812s)
Lead	Chromosome damage found in workers in a Pb oxide factory.	Deut. Med. Wochenschr. 95 (32), 1636-41 (1970) (CA 73, 101771g)
	In bone marrow of 8 patients with mild to severe intoxication with Pb, chromosomal aberrations occurred in small amts. as single fragments.	Genetika 6 (4), 174-7 (1970) (CA 73, 90970a)
	In pregnant hamsters, synteratogenic effects of lead and cadmium showed that frequency and severity of clefts in the lipland palate caused by Cd was reduced by Pb; post tail malformations caused by Pb appeared to be potentiated in presence of Cd.	Experientia 25 (1), 56-7 (1969) (CA 70, 55841a)
	In rats given 25 ppm lead in drinking water increased incidences of glycosuria occurred. Pb accumulated in soft tissues. No tumorigenic effects noted.	J. Nutr. 100 (1), 59-68 (1970) (CA 72, 87560r)
	Administration of drinking water contg. 25 mg/l Pb to breeding colonies of rats or mice and their offspring resulted in rapid dieoff of the colonies.	Arch. Env. Health 23 (2), 102-6 (1971) (CA 75, 107812s)

METAL SALTS

COMPOUND	NOTES	REF.
Aluminum chloride	The presence of Al (as $AlCl_3$ soln.) reduced the incidence of lung adenomas, induced in mice by 4-nitroquinoline 1-oxide.	Gann 61 (3), 239-44 (1970) (CA 73, 75391u)
Cadmium chloride	Blocked retinal activity in frog to some extent.	Biol. Zh. Arm. 22 (8), 71-6 (1969) (CA)
	Retardation, somnolescence, decrease in appetite, muscle rigidity and partial tetanus in 6 rats given i.p. 3 mg/kg 3 times a week for 3 weeks. Brain edema, hyperemia of brain substance, and capillary stasis observed.	Sb. Nauch. Tr. Ryazan. Med. Inst. 27, 135-43 (1966) (CA 71, 68984v)
Cobalt chloride	In endocrine pancreas of chick embryo the toxic influence is limited to the splenic lobe.	Ann. Embryol. Morphog. 2 (2), 139-55 (1969) (CA 72, 52309p)
	In rabbits, rats and frogs a marked dilatory effect in vascular capillaries noted, plus a circulatory slow-down and stimulation of cardiac activity.	Uch. Zap. Saratov. Gos. Pedagog. Inst. No. 44, 76-83 (1966) (CA 70, 2356q)
Ferric chloride	In mice, the acute LD_{50} values for i.v. and intragastrically administered $FeCl_3$ were 0.049 and 0.44, resp.	Aust. Paediat. J. 6 (2), 92-6 (1970) (CA 73, 107671d)
Lead acetate	Basic lead acetate fed to mice or hamsters at 0.1-0.5% in the diet for 2 yr. led to renal tumors in 7 of 50 mice on 0.1% PbOAc. In hamsters no kidney tumors were induced by Pb but renal damage was observed. The 0.5% level of Pb salt was somewhat toxic to both species.	Brit. J. Cancer 23 (4), 765-71 (1969) (CA 72, 109046g)
	Rats given drinking water with 28 ug/l Pb acetate died significantly faster than rats in control group.	Arch. Hyg. Bakteriol. 154 (1), 8-13 (1970) (CA 73, 118625t)

METAL SALTS

COMPOUND	NOTES	REF.
Nickel Sulfate	In study of digestive enzymes, low levels inactivated pancreatic amylase, but activated salivary amylase.	Arch. Zap. Petrozavodsk. Gos. Univ. 15 (3), 229-33 (1967) (Pub. 1969) (CA 73, 127167x)
Sodium chloride	Compared to controls, a high degree of teratogenesis was revealed in pregnant mice at 11 days of gestation that were treated with high doese of NaCl (up to 2500 mg/kg) and sacrificed at 18 days.	Acta Anat. 74 (1), 121-4 (1969) (CA 73, 85622j)
Zinc chloride	About 18-24 mos. after admin. of highly dispersed Zn powder and $ZnCl_2$ soln. into the trachea, pleural cavity, abdominal cavity, and testicles, malignant tumors in different stages of development were found in 15% of the rats.	Vitalst. Zivilisationskr. 15 (76), 43-5 (1970) (CA 73, 107541m)

MINERAL ACIDS

COMPOUND	NOTES	REF.
Sodium arsenate	Teratogenic studies showed that the specimen of developmental malformations resulting from the injection of dibasic Na arsenate into pregnant golden hamsters varies with the time of injection during the critical stages of embryogenesis. Cleft lip and rib malformations were more frequent in male embryos; genital abnormalities occurred more frequently in female embryos.	Arch. Environ. Health 22 (5), 557-60 (1971) (CA 75, 17990u)
Sodium chloride	See Metal Salt.	

AMMONIA

COMPOUND	NOTES	REF.
	Acute ammonium poisoning was induced in three groups of sheep, using a mixt. of NH_4Cl, $-CO_3$, $-PO_4$, and $-SO_4$	Am. J. Vet. Res. 32 (8), 1229-38 (1971) (CA 75, 116949t)
	General passive hyperemia and munerous petechial and ecchymotic hemorrhages in the musculature, heart, thymus, and lungs were constant gross alterations in sheep intraruminally injected with NH_4Cl.	Am. J. Vet. Res. 32 (8), 1239-46 (1971) (CA 75, 116949u)
Ammonium hydroxide	Toxicity of NH_4OH (undissocd.) to striped bass and stickleback was detd. by static bioassay at 15 and 23°. The 96-hr. median tolerance limits (TLm) of striped bass in fresh water, brackish water, and seawater, resp., were 2.8, 2.8, and 2.0 at 15° and 1.9, 2.1, and 1.5 mg/liter at 23°. For stickleback the values were 2.1, 5.2, and 10.4 at 15° and 1.8, 2.4, and 2.3 mg/liter at 23°, resp.	Calif. Fish Game 57 (3), 138-53 (1971) (CA 75, 127262r)

PYRIDINES

COMPOUND	NOTES	REF.
Cetyl pyridinium chloride	Quaternary pyridinium salts at 10^{-3}M had a mutogenic effect on germinating Allium cepa seeds only at low temp. (5-12°) and under aerobic conditions. Pyridinium salts were effective as mutagens only at the DNA-synthesis phase of the mitotic cycle.	Genétika 5 (2), 161-7 (1969) (CA 71, 854x)
	At 10^{-5}M rapidly decreased Na transport by toad bladder epithelium, but caused few ultrastructural changes for at least 18 hr. Apparently, injures cells by interfering with the function of the surface membrane as a permeability barrier.	Am. J. Pathol. 64 (2), 271-94 (1971) (CA 75, 95946y)

PHENOLS

COMPOUND	NOTES	REF.
Benzethanium chloride	See: Aliphatic Amines In mouse, 3% in alcohol 3 times weekly. (Skin) Tumor: Negative	ADL-I, p. 271
	In rat, 3% in alcohol 3 times weekly. (Skin) Tumor: Negative	ADL-I, p. 271
Hexachlorophene	Skin sensitization was produced in man, but not guinea pigs, with hexachlorophene.	Proc. Joint Conf. Cosmet. Sci., 107-22 (1968) (CA 70, 194684n)
Hyamine 1622	See: Aliphatic Amines	
B-Naphthol	In root mitosis study of broad bean, caused a considerable decrease in the mitotic index, compared to control. Among the induced types of anomalies were lagging chromosomes, stickiness, fragmentation, and cytomixis.	Cytologia 34 (4), 553-40 (1969) (CA 73, 24223h)
Pentachlorophenol	In root mitosis study of broad bean, caused a considerable decrease in the mitotic index, compared to control. Among the induced types of anomalies were lagging chromosomes, stickiness, fragmentation, and cytomixis.	Cytologia 34 (4), 553-40 (1969) (CA 73, 24223h)
Phenol	Phenol produced an immediate increase in the size of the monosynaptic response (MSR) in cats after i.v. administration.	Brain Res. 21, (3), 471-3 (1970) (CA 73, 86218u)
	Percutaneous toxicity of phenol in rats was increased by water.	Brit. J. Ind. Med. 27 (2), 155-9 (1970) (CA 73, 33515g)
o-Phenylphenol	A clin. investigation of leuco-melanodermatosis due to contact with o-phenylphenol and the results of an exptl. study of oral admn. of this cpd. showed that 5 of the 13 cases studied were considered to be leucomelanodermatosis following contact dermatitis due to the cpd.	Bull. Pharm. Res. Inst. No. 76, 5-13 (1968) (CA 72, 89169u)

SYNTHETIC COLORING MATTER

COMPOUND	NOTES	REF.
Amaranth solution	Amaranth had the strongest carcinogenic properties of 3 azonaphthalenes studied and when fed to 48 rats at 0.3 g/rat 6 times a week for 33 mos. induced 15 primary tumors in 13 different rats.	Vop. Pitan. 29 (5), 61-5 (1970) (CA 73, 129152n)

APPENDIX B

OXYGEN DEMAND DATA

REFERENCES USED FOR III-3, OXYGEN DEMAND

Heukelekian, H. and M. C. Rand, "Biochemical Oxygen Demand of Pure Organic Compounds," Sewage and Industrial Waste, 1040-53 (Sept. 1955).

Lamb, Charles B. and George F. Jenkins, "B.O.D. of Synthetic Organic Chemicals," pp. 326-39, Proc. 7th Industrial Waste Conference, Purdue University, 1952.

Mills, E. J., Jr., and Vernon F. Stack, Jr., "Biological Oxygen Demand of Synthetic Organic Chemicals," pp. 492-517, Proc. 8th Industrial Waste Conference, Purdue University, 1953.

ALCOHOLS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Butyl acetate		0.52	5	St. dil	Sewage	Heuk.
Butyl acetate		0.15	5	St. dil.	Sewage	Heuk.
n-Butyl alcohol		1.45	5	St. dil.	Sewage	Heuk.
n-Butyl alcohol	1-5	1.10	5	St. dil.	Sewage	Heuk.
n-Butyl alcohol		1.5, 1.65	5	St. dil.	Sewage	Heuk.
n-Butyl alcohol	1-10	1.45	5	St. dil.	Sewage	Heuk.
n-Butyl alcohol	2.5-7.5	1.30	5	St. dil.	Sewage	Heuk.
n-Butyl alcohol		1.50	5	St. dil.	Sewage[1]	Heuk.
n-Butyl alcohol	1,000	1.79	5	Warburg	Sewage[1]	Heuk.
n-Butyl alcohol	1-5	1.92	5	St. dil.	Sewage	Heuk.
n-Butyl alcohol	500-1,500	1.67	5	Sierp	Sewage[1]	Heuk.
n-Butyl alcohol	50-250	2.04	5	Warburg	Sewage[1]	Heuk.
iso-Butyl alcohol		1.66	5	St. dil.	Sewage	Heuk.
iso-Butyl alcohol		0.07	5	St. dil.	Sewage	Heuk.
Diethylene glycol		nil	10	St. dil.	Sewage	Heuk
Diethylene glycol		0.02	5	St. dil.	Sewage	Heuk.
Diethylene glycol		0.06	5	St. dil.	Sewage	Heuk.

[1] 10 percent

ALCOHOLS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Ethyl acetate		1.13	5	St. dil.	Sewage	Heuk.
Ethyl acetate		0.29	5	St. dil.	Sewage	Heuk.
Ethly acetate	1,000	1.14	4	Sierp	Sewage	Heuk.
Ethyl acetate	1,000	0.76	4	Sierp	Sewage	Heuk.
Ethyl acetate	1,000	0.81	4	Sierp	Sewage	Heuk.
Ethyl acetate	1,000	0.80	4	Sierp	Sewage	Heuk.
Ethyl acetate	1,000	0.83	4	Sierp	Adapted	Heuk.
Ethyl acetate	1,000	1.14	4	Sierp	Sewage[1]	Heuk.
Ethyl acetate	1.7-20	0.57	5	St. dil.	Sewage	Heuk.
Ethyl acetate	440	0.92	5	Sierp	Sewage[2]	Heuk.
Ethyl acetate		0.66	5	St. dil.	Sewage	Heuk.
Ethyl acetate		0.86	5	St. dil.	Sewage	Heuk.

[1] Buffered

[2] 10 percent

ALCOHOLS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Ethyl alcohol		1.67	5	St. dil.	Sewage	Heuk.
Ethyl alcohol		1.44	5	St. dil.	Sewage	Heuk.
Ethyl alcohol	1-10	1.07	5	St. dil.	Sewage	Heuk.
Ethyl alcohol		1.25	5	St. dil.	Sewage	Heuk.
Ethyl alcohol	2.5-7.5	1.14	5	St. dil.	Sewage	Heuk.
Ethyl alcohol		1.40	5	St. dil.	Sewage	Heuk.
Ethyl alcohol		1.26	5	St. dil.	Sewage	Heuk.
Ethyl alcohol		1.29	5	St. dil.	Sewage	Heuk.
Ethyl alcohol	1,000	1.50	5	Warburg	Sewage	Heuk.
Ethyl alcohol	500-1,500	1.37	5	Sierp	Sewage	Heuk.
Ethyl alcohol	50-250	1.52	5	Warburg	Sewage	Heuk.
Ethyl alcohol	2	1.03	5	St. dil.	sp. cult.	Heuk.
Ethyl alcohol	2	1.56	10	St. dil.	sp. cult.	Heuk.
Ethyl alcohol		1.00	5	St. dil	Sewage	Heuk.
Ethyl alcohol		0.93	5	St. dil.	Sewage	Heuk.
Ethylene glycol		0.16	5	St. dil.	Sewage	Heuk.
Ethylene glycol		1.10	10	St. dil.	Sewage	Heuk.
Ethylene glycol	12	0.68	5	St. dil.	Sewage	Heuk.
Ethylene glycol	12	0.93	10	St. dil.	Sewage	Heuk.
Ethylene glycol		0.49	5	St. dil.	Sewage	Heuk.

[1] 10 percent

ALCOHOLS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Glycerol		0.65	5	St. dil.	Sewage	Heuk.
Glycerol		0.80	5	St. dil.	Sewage	Heuk.
Glycerol		0.617	5	St. dil.	Sewage	Heuk.
Glycerol	150-500	0.78	5	Sierp	Sewage[1]	Heuk.
Glycerol	50-250	0.83	5	Warburg	Sewage[1]	Heuk.
Glycerol	2	0.81	5	St. dil.	sp. cult.	Heuk.
Glycerol	2	0.98	10	St. dil.	sp. cult.	Heuk.
Glycerol		0.61	5	St. dil.	Sewage	Heuk.
Isopropyl acetate		0.26	5	St. dil.	Sewage	Heuk.
Lignin	2	0	5	St. dil.	sp. cult.	Heuk.
Lignin	2	0	5	St. dil.	sp. cult.	Heuk.
Methyl alcohol		0.80	5	St. dil.	Sewage	Heuk.
Methyl alcohol	1-5	1.12	5	St. dil.	Sewage	Heuk.
Methyl alcohol		0.90	5	St. dil.	Sewage	Heuk.
Methyl alcohol	1-10	0.76	5	St. dil.	Sewage	Heuk.
Methyl alcohol	2.5-7.5	0.77	5	St. dil.	Sewage	Heuk.
Methyl alcohol		0.80	5	St. dil.	Sewage	Heuk.
Methyl alcohol		0.90	5	St. dil.	Sewage	Heuk.
Methyl alcohol		0.93	5	St. dil.	Sewage	Heuk.
Methyl alcohol		0.90	5	St. dil.	Sewage	Heuk.
Methyl alcohol	500-1,500	0.13	5	Sierp	Sewage[1]	Heuk.
Methyl alcohol	50-250	0.80	5	Warburg	Sewage[1]	Heuk.
Methyl alcohol	1,000	0.60	5	Warburg	Sewage[1]	Heuk.
Methyl alcohol		0.77	5	St. dil.	Sewage	Heuk.
Methyl alcohol		0.82	5	St. dil.		Heuk.
Polyethylene glycol		0.08, 0.30	10	St. dil.	Sewage	Heuk.

ALCOHOLS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Polysorbate 80 (see: Tween 80)						
n-Propyl alcohol		0.47	5	St. dil.	Sewage	Heuk.
n-Propyl alcohol		1.5	5	St. dil.	Sewage	Heuk.
Resorcinol		1.15	5	St. dil.	Sewage	Heuk.
Triethylene glycol		0.50	10	St. dil.	Sewage	Heuk.
Tween 80		0.35	5	St. dil.	Sewage	Heuk.

[1] 10 percent

ALCOHOLS

B.O.D. OF SYNTHETIC ORGANIC CHEMICALS

2.5 ppm. of Chemical in B.O.D. Bottle

Mineralized Dilution Water and Settled Sewage Seed

Chemical	% of theoretical B.O.D. satisfied after this number of days incubation at 20°C							Ref.
	5	10	15	20	30	40	50	
Methanol	53.4	62.7	69.4	67.0	69.4	93.4	97.7	Lamb
Ethanol	44.2	65.4	71.2	71.2	78.9	78.9	77.0	
Ethylene glycol	12.5	51.8	71.0	78.0	--	--	--	
Diethylene glycol	1.5	5.6	9.0	18.8	--	--	--	
Triethylene glycol	1.4	3.7	11.5	17.0	--	--	--	
Propylene glycol	2.2	56.7	72.1	77.8	79.0	77.8	80.0	
Ethyl acetate	36.0	50.4	51.6	53.8	--	--	--	
Butyl acetate	23.5	50.7	46.6	57.4	--	--	--	
Isopropyl acetate	12.7	40.0	40.0	40.0	42.7	49.1	--	

ALDEHYDE

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Formaldehyde		1.06	5	St. dil.	Sewage	Heuk.
Formaldehyde		0.64	5	St. dil.	Sewage	Heuk.
Formaldehyde	2.5-10	0.33	5	St. dil.	Sewage	Heuk.
Formaldehyde	1.7-20	0.45	5	St. dil.	Sewage	Heuk.
Formaldehyde	260	1.10	5	Manom.	Sewage[1]	Heuk.
Formaldehyde	260	0.57	5	Manom.	Sewage[2]	heuk.
Formaldehyde	440	0	5	Sierp	Sewage[3]	Heuk.
Formaldehyde	130	1.00	7	Warburg	Sewage[1]	Heuk.
Formaldehyde	260	1.10	5	Warburg[4]	Sewage[5]	Heuk.

[1] 50 percent

[2] 5 percent

[3] 10 percent

[4] Adapted

[5] 25 to 50 percent

ALIPHATIC ACIDS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Acetic acid		0.88	5	St. dil.	Sewage	Heuk.
Acetic acid		0.85	5	St. dil.	Sewage	Heuk.
Acetic acid		0.77	5	St. dil.	Sewage	Heuk.
Acetic acid		0.53	5	St. dil.	Sewage	Heuk.
Acetic acid		0.586	5	St. dil.	Sewage	Heuk.
Acetic acid		0.45	5	St. dil.		Heuk.
Acetic acid		0.34	5	St. dil	Sewage	Heuk.
Acetic acid		0.52	5	St. dil.	Sewage	Heuk.
Acetic acid		0.62	5	St. dil.	Sewage	Heuk.
Acrylonitrile		0.70	10	St. dil.	Sewage	Heuk.
Butyl acetate (see: Alcohol)						
Casein		0.25	5	St. dil.	Sewage	Heuk.
Casein		0.77	5	St. dil.	Sewage	Heuk.
Casein	1,000	0.95	5	Manom.	Sewage	Heuk.
Casein	2.5-20	0.77	5	St. dil.	Sewage	Heuk.
Casein	865	1.01	5	Sierp	Sewage	Heuk.
Casein	250	0.89	5	Warburg	Sewage	Heuk.
Casein		0.57	5	St. dil.	Sewage	Heuk.
Casein		1.17	5	St. dil.	Sewage	Heuk.
Citric acid		0.40	5	Warburg	Sewage	Heuk.
Ethyl acetate (see: Alcohols)						
Ethylene diamine tetracetic acid		0.01	5	St. dil.	Sewage	Heuk.

ALIPHATIC ACIDS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Formic acid		0.19	5	St. dil.	Sewage	Heuk.
Formic acid		0.27	5	St. dil.	Sewage	Heuk.
Formic acid		0.152	5	St. dil.	Sewage	Heuk.
Formic acid		0.02	5	St. dil.	Sewage	Heuk.
Gelatin		0.88	5	St. dil.	Sewage	Heuk.
Gelatin	2.5-20	0.55	5	St. dil.	Sewage	Heuk.
Gelatin	865	0.66	5	Sierp	Sewage	Heuk.
Gelatin	250	0.69	5	Warburg	Sewage	Heuk.
Gelatin	10	0.92	5	St. dil.	Sewage	Heuk.
Isopropyl acetate (see: Alcohols)						
Lactic acid		0.63	5	Warburg	Sewage	Heuk.
Lactic acid	2	0.64	5	St. dil.	sp. cult.	Heuk.
Lactic acid	2	0.88	10	St. dil.	sp. cult.	Heuk.
Oxalic acid		0.14	5	St. dil.	Sewage	Heuk.
Oxalic acid		0.10	5	St. dil.	Sewage	Heuk.
Polysorbate 80 (see: Alcohols)						
Tartaric acid		0.30	5	Warburg	Sewage	Heuk.
Undecylenic acid		0.537	5	St. dil.	Sewage	Heuk.

ALIPHATIC HYDROCARBONS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Gasoline	2.5-5	0.078	5	St. dil.	Sewage	Heuk.
Kerosene	1-15	0.53	5	St. dil.	Sewage	Heuk.

AMMONIA, ALIPHATIC AMINES, AND THEIR SALTS WITH ACIDS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Ethanolamine		0.78	5	St. dil.	Sewage	Heuk.
Ethylene diamine tetraacetic acid (see: Aliphatic Acid)						
Triethanolamine		nil	10	St. dil.	Sewage	Heuk.
Triethanolamine		0.01	5	St. dil.	Sewage	Heuk.
Triethanolamine		0	5	St. dil.	Sewage	Heuk.

B.O.D. OF SYNTHETIC ORGANIC CHEMICALS

2.5 ppm. of Chemical in B.O.D. Bottle
Mineralized Dilution Water and Settled Sewage Seed

Chemical	% of theoretical B.O.D. satisfied after this number of days incubation at 20°C.							Ref.
	5	10	15	20	30	40	50	
Monethanolamine	0	58.4	61.2	64.0	66.7	64.0	75.0	Lamb
Diethanolamine	0.9	1.4	3.5	6.8				
Triethanolamine	0	0.8	2.6	6.2				

ANILINE

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Aniline		1.49	5	St. dil.	Sewage	Heuk.
Aniline		2.26	5	St. dil.	Sewage	Heuk.
Aniline	1.5-3	1.47	5	St. dil.	Sewage	Heuk.
Aniline		1.50	5	St. dil.	Sewage	Heuk.

AROMATIC ACIDS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Benzoic acid		1.40	10	St. dil.	Sewage	Heuk.
Benzoic acid		1.34	5	St. dil.	Sewage	Heuk.
Benzoic acid		1.40	5	St. dil.	Sewage	Heuk.
Dibutyl phthalate		0.43	5	St. dil.	Sewage	Heuk.
Gallic acid		0.08	5	St. dil.	Sewage	Heuk.
Salicylic acid, ortho		0.95	5	St. dil.	Sewage	Heuk.
Sodium benzoate		1.13	5	St. dil.	Sewage	Heuk.
Sodium benzoate	440	1.36	5	St. dil.	Sewage	Heuk.
Tannic acid		0.31	5	St. dil.	Sewage	Heuk.
Tannic acid		0.46	5	St. dil.	Sewage	Heuk.

AROMATIC HYDROCARBONS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Benzene		1.20	10	St. dil.	Sewage	Heuk.
Benzene		0	5	St. dil.	Sewage	Heuk.
Toluene		0	5	St. dil.	Sewage	Heuk.
Xylene		0	5	St. dil.	Sewage	Heuk.
Naphthalene		0	5	St. dil.	Sewage	Heuk.

CARBOHYDRATES

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Cellulose	2	0.08	5	St. dil.	sp. cult.	Heuk.
Cellulose	2	0.21	10	St. dil.	sp. cult.	Heuk.
Cellulose, alpha	10,000	0.15	5	Sierp	Sewage	Heuk.
Cellulose, alpha	10,000	0.40	10	Sierp	Sewage	Heuk.
Cellulose, alpha	10,000	0.89	20	Sierp	Sewage	Heuk.
Cellulose, alpha	10,000	1.1	80	Sierp	Sewage	Heuk.
Cellulose, alpha	10,000	0.70	5	Sierp	Adapted	Heuk.
Cellulose, alpha	10,000	1.03	10	Sierp	Adapted	Heuk.
Cellulose, alpha	10,000	1.1	20	Sierp	Adapted	Heuk.
Methylcellulose	165	0.008	5	St. dil.	Sewage	Heuk.
Carboxymethylcellulose		0.3	5	St. dil.	Sewage	Heuk.
Dextrin		.40	5	St. dil.	Sewage	Heuk.
Dextrin		.50	5	St. dil.	Sewage	Heuk.
Glucose		0.53	5	St. dil.	Sewage	Heuk.
Glucose		0.62	5	St. dil.	Sewage	Heuk.
Glucose		0.63	5	St. dil.	Sewage	Heuk.
Glucose		0.53	5	St. dil.	sp. cult.	Heuk.
Glucose		0.64	5	St. dil.	Sewage	Heuk.
Glucose	2.5-20	0.64	5	St. dil.	Sewage	Heuk.
Glucose		.50	5	St. dil.	Sewage	Heuk.
Glucose	1,000	0.74	5	Manom.	Sewage	Heuk.
Glucose	865	0.77	5	Sierp	Sewage	Heuk.
Glucose	250	0.72	5	Warburg	Sewage	lleuk.
Glucose	2	0.78	5	St. dil.	sp. cult.	Heuk.
Glucose	2	1.01	10	St. dil.	sp. cult.	Heuk.
Glucose	5	0.74	5	St. dil.	Sewage	Heuk.

CARBOHYDRATES

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Lactose		0.45	5	St. dil.		Heuk.
Lactose	2.5-20	0.52	5	St. dil.	Sewage	Heuk.
Lactose		0.55	5	St. dil.	Sewage	Heuk.
Lactose	865	0.72	5	Sierp	Sewage	Heuk.
Lactose	250	0.65	5	Warburg	Sewage	Heuk.
Sodium alginate	4	0.36	5	St. dil.	Sewage	Heuk.
Sucrose	1.25-7	0.688	5	St. dil.	Sewage	Heuk.
Sucrose	2.5-20	0.70	5	St. dil.	Sewage	Heuk.
Sucrose	865	0.67	5	Sierp	Sewage	Heuk.
Sucrose	250	0.70	5	Warburg	Sewage	Heuk.
Sucrose		0.49	5	St. dil.	Sewage	Heuk.
Sucrose	5	0.76	5	St. dil.	Sewage	Heuk.
Starch	2	0.22	5	St. dil.	sp. cult.	Heuk.
Starch	2	0.59	10	St. dil.	sp. cult.	Heuk.
Starch	2.5-20	0.51	5	St. dil.	Sewage	Heuk.
Starch	865	0.71	5	Sierp	Sewage	Heuk.
Starch	250	0.67	5	Warburg	Sewage	Heuk.
Starch	1,000	0.69	5	Manom.	Sewage	Heuk.
Starch		0.51	5	St. dil.	Sewage	Heuk.
Starch		0.63	5	St. dil.	Sewage	Heuk.
Starch		0.68	5	St. dil.	Sewage	Heuk.
Starch	20	0.39	5	St. dil.	Sewage	Heuk.
Starch	20	0.55	10	St. dil.	Sewage	Heuk.
Starch modified	20	0.15	5	St. dil.	Sewage	Heuk.
Starch modified	20	0.43	10	St. dil.	Sewage	Heuk.
Starch (corn)		1.25	5	St. dil.	Sewage	Heuk.
Starch (corn)		0.60	5	St. dil.	Sewage	Heuk.
Starch (corn)		0.50	5	St. dil.	Sewage	Heuk.
Starch (wheat)		0.55	5	St. dil.	Sewage	Heuk.

HALOGENATED HYDROCARBONS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Chloroform		0.008	5	St. dil.	Sewage	Heuk.
Chloroform		0	5	St. dil.	Sewage	Heuk.
Ethylene dichloride		0.05	10	St. dil.	Sewage	Heuk.
Ethylene dichloride		0.002	5	St. dil.	Sewage	Heuk.

Compound	10-Day B.O.D. 20°C.	Theoretical B.O.D.	Method	Ref.
Ethylene dichloride	0.05	1.0	Dispersed Seed Aeration	Mills (1953)

KETONE

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Acetone		1.20	10	St. dil.	Sewage	Heuk.
Acetone		1.39	5	St. dil.	Sewage	Heuk.
Acetone	10	0.31	5	St. dil.	Sewage	Heuk.
Acetone	1.7-20	0.05-0.72	5	St. dil.	Sewage	Heuk.
Acetone	12	1.43	5	St. dil.	Sewage	Heuk.
Acetone	12	1.63	10	St. dil.	Sewage	Heuk.
Acetone		0.544	5	St. dil.	Sewage	Heuk.
Acetone	440	0	5	Sierp	Sewage	Heuk.
Acetone		0.69	5	St. dil.	Sewage	Heuk.

B.O.D. OF SYNTHETIC ORGANIC CHEMICALS

2.5 ppm. of Chemical in B.O.D. Bottle
Mineralized Dilution Water and Settled Sewage Seed

Chemical	% of theoretical B.O.D. satisfied after this number of days incubation at 20°C.							Ref.
	5	10	15	20	30	40	50	
Methyl isobutyl ketone	4.4	49.3	55.9	56.6	59.6	64.8	64.8	Lamb
Acetone	55.4	71.8	78.2	78.2				

NITRO COMPOUNDS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Nitrobenzene	1.7-20	0	5	St. dil.	Sewage	Heuk.
Nitrobenzene	440	0	5	Sierp	Sewage[1]	Heuk.

[1] 10 percent

PHENOL

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
ortho Cresol		1.64	5	St. dil.	Sewage	Heuk.
meta Cresol		1.70	5	St. dil.	Sewage	Heuk.
p-Cresol	1.7-20	1.40	5	St. dil.	Sewage	Heuk.
p-Cresol	440	1.48	5	Sierp	Sewage[2]	Heuk.
Gallic acid (See: Aromatic acid)						
Hydroquinone		0.48	5	St. dil.	Sewage	Heuk.
8-Hydroxyquinoline (Oxyquinoline)(See: Pyridine)						
Lignin (See: Alcohols)						
Naphthol, alpha		1.69	5	St. dil.	Sewage	Heuk.
Naphthol, alpha		1.75	5	St. dil.	Sewage	Heuk.
Naphthol, beta	0.75-3	1.79	5	St. dil.	Sewage	Heuk.
Pyrogallol		0.016	5	St. dil.	Sewage	Heuk.

[2] 10 percent

PYRIDINE

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Morpholine		nil	10	St. dil.	Sewage	Heuk.
Morpholine		.02	5	St. dil.	Sewage	Heuk.
Oxyquinoline		0	5	St. dil.	Sewage	Heuk.
Quinoline		1.71	5	St. dil.	Sewage	Heuk.

B.O.D. OF SYNTHETIC ORGANIC CHEMICALS

2.5 ppm. of Chemical in B.O.D. Bottle
Mineralized Dilution Water and Settled Sewage Seed

Chemical	% of theoretical B.O.D. satisfied after this number of days incubation at 20°C.							Ref.
	5	10	15	20	30	40	50	
Morpholine	0.9	0.9	4.0	5.1				Lamb

SULFONATED HYDROCARBONS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Toluene sulfonic acid		0	5	St. dil.	Sewage	Heuk.

SYNTHETIC COLORING MATTERS

Compound	Conc. (p.p.m.)	B.O.D. (g./g.)	Incub. Time (days)	Method	Seed	Ref.
Aniline yellow		0	5	St. dil.	Sewage	Heuk.
Methyl violet		0	5	St. dil.	Sewage	Heuk.
Methyl orange		0	5	St. dil.	Sewage	Heuk.
Tropeolin 00		0	5	St. dil.	Sewage	Heuk.
Congo red		0	5	St. dil.	Sewage	Heuk.
Malachite green		0	5	St. dil.	Sewage	Heuk.
Phloxin		0	5	St. dil.	Sewage	Heuk.
Bromthymol blue		0	5	St. dil.	Sewage	Heuk.
Phenol red		0	5	St. dil.	Sewage	Heuk.

END 9/12/73

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